

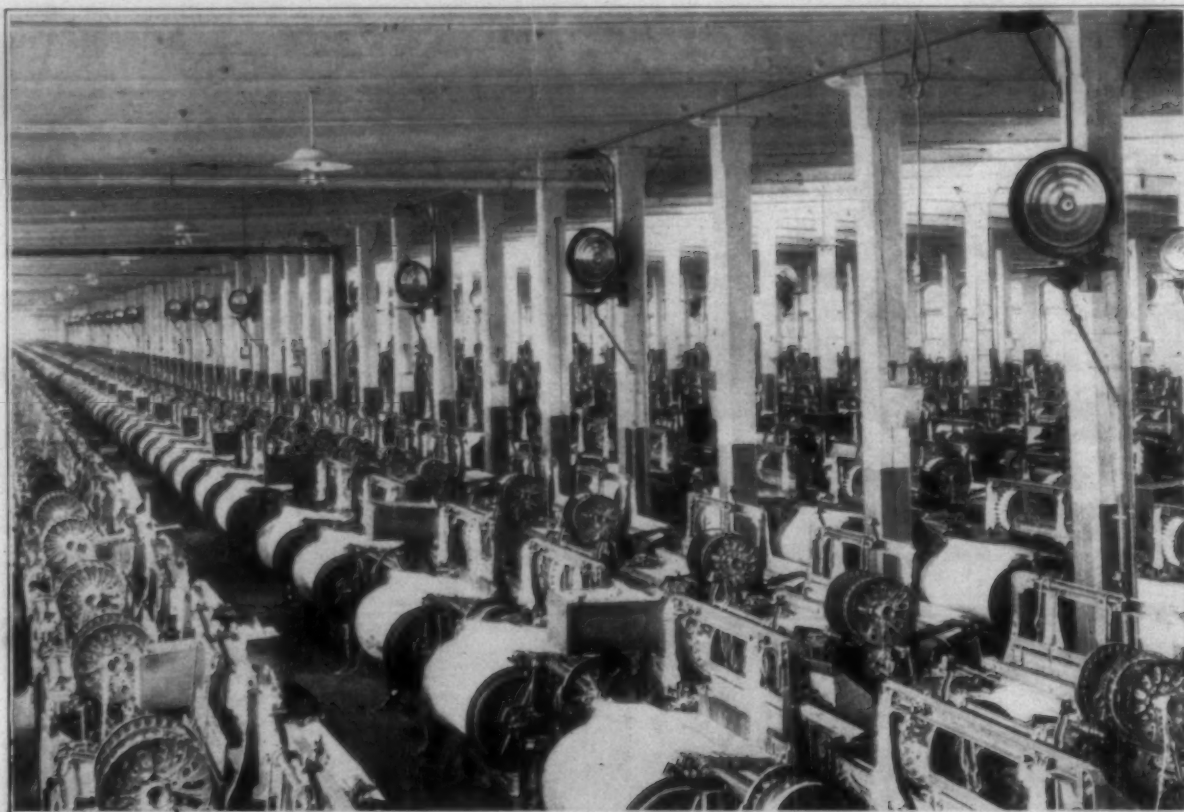
Commerce

# SOUTHERN TEXTILE BULLETIN

VOLUME 27

CHARLOTTE, N. C., THURSDAY, OCTOBER 23, 1924

NUMBER 8



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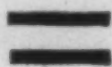
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Winston-Salem, N. C.

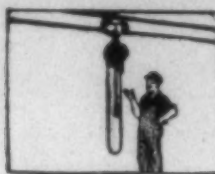
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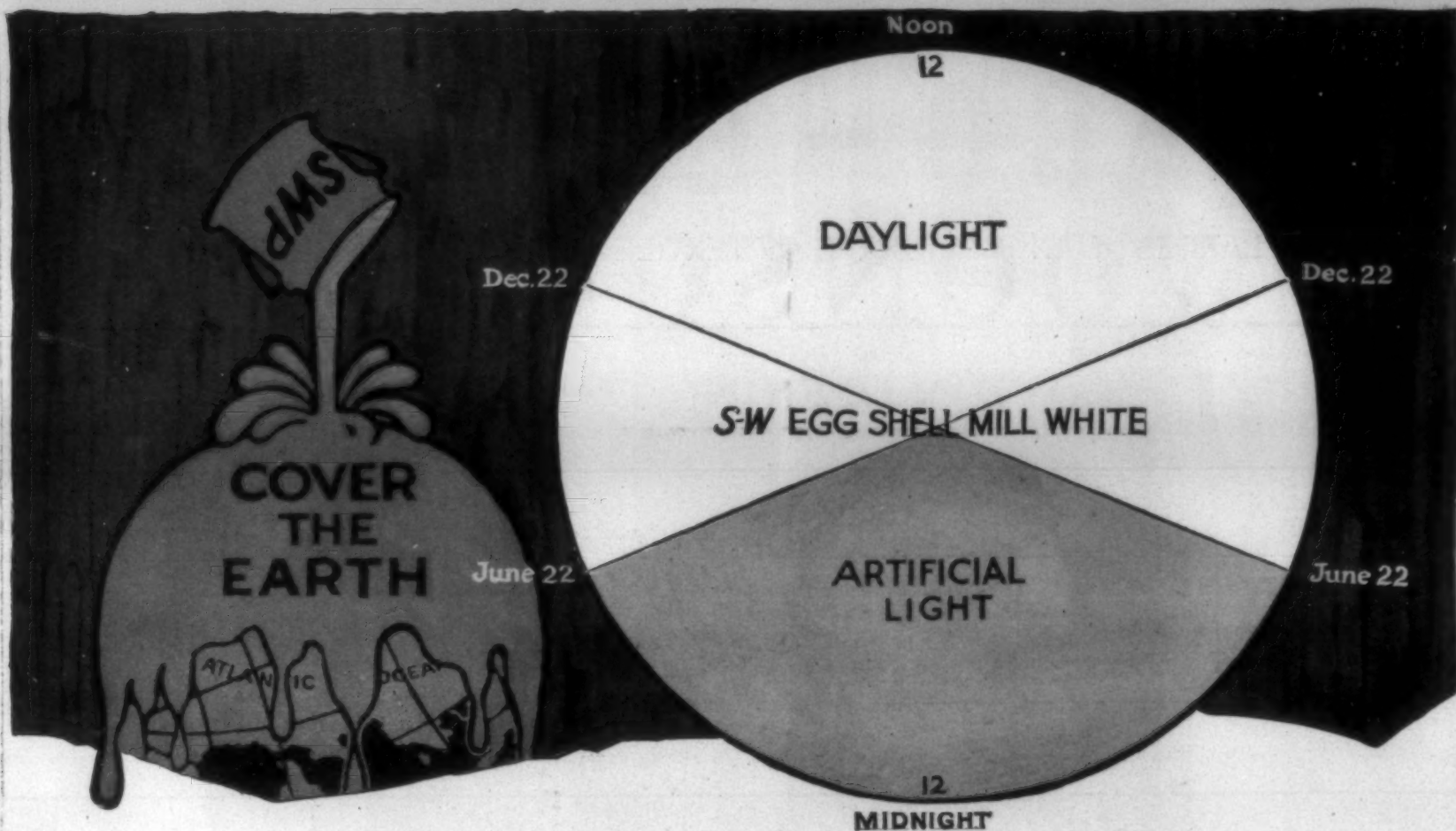
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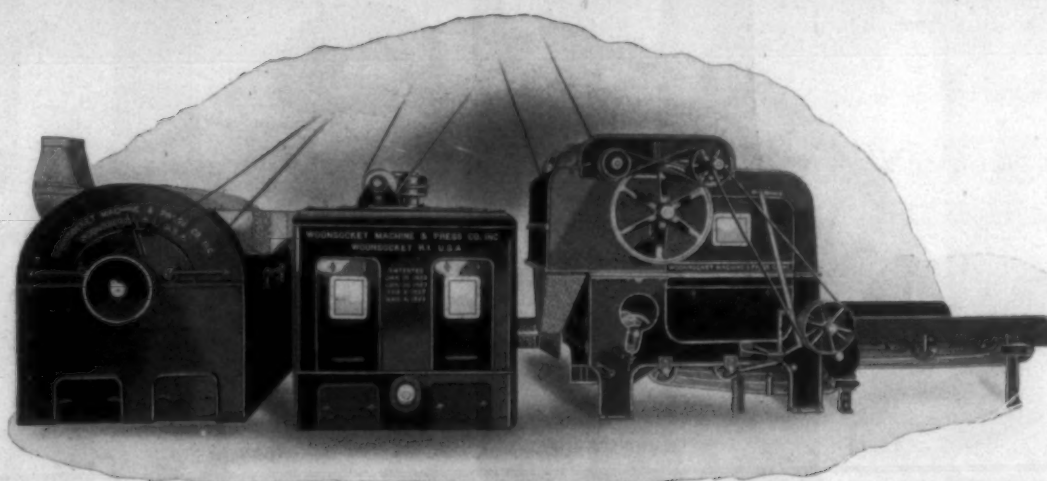
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# SOUTHERN TEXTILE BULLETIN

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VOLUME 27

CHARLOTTE, N. C., THURSDAY, OCTOBER 23, 1924

NUMBER 8

## *Need for Fundamental Research in Textile Industry*

Address by John Bancroft, of Joseph Bancroft & Sons Co., Wilmington, Del., before Southern Textile Association.

Mr. Chairman and Members of the Southern Textile Association:

The subject of the need for a fundamental "Research Institute" in the textile industry in this country is a very important one. Since accepting the kind invitation extended me to talk to you on it, I became more conscious every day how poorly equipped I am in language and in scientific knowledge to present such an important question adequately in the realization of the great changes that have occurred, and are taking place, in the economic conditions in this country, and its various industries. These changes cannot be met by continuing methods that have been in use for several generations; these should be modified or improved in light of all new knowledge and facts that can be brought to bear upon them by the work of highly trained technologists devoting their time and talents to the search for the best raw material and the most economical and scientific methods of manufacture.

I believe that all of us who are interested in seeing our cotton mills prepared to meet both foreign and home competition in quality and cost, and who are concerned in the future welfare of our employees and the growth of our important industry, should give this project, to which our attention has been drawn so many times in discussions and in articles by influential writers in prominent textile journals, careful consideration. Let us realize that more thought must be given for the morrow and less to the past to meet the new and greater demands. We must build more solidly for the future.

Dr. Pickard well said at Charlotte last month: "For the industry collectively, what we need as much as anything else is collective sentiment and collective determination to increase the distribution of American products abroad. As an adjunct to this, we should have a well organized and well supported textile research laboratory, designed to study constantly the elimination of waste and the application of improvements in machinery and improvements in manufacturing methods," to which I will add "and to help towards a more balanced production and better marketing conditions."

A research laboratory must necessarily be under a council exercising proper and intelligent control, and representative of the many factors contributing to the finished product. This council should be comprised of men who are thoroughly impressed with the great importance and value of research, and who are, in a sense, idealists, with the ability to separate the essential from the non-essential in the reports submitted by the technical staff. It should act as a clearing house for the data and information collected and presented to it, and should keep the industry in close co-operation with its activities through its publications in an official journal.

For the sake of brevity, I will quote from a correspondent, whose views I asked on this subject, as they are explanatory and constructive, and cover the ground concisely:

### Meaning of Term "Fundamental Research."

"No substantial progress toward the development of a broad program of fundamental research in the textile industry of this country can be made until the popular misconception of, and ignorance pertaining to, the term are eliminated. It is undoubtedly true that a very large number of manufacturers consider standardization and testing the backbone of research. As long as this conception prevails a mill will consider that it is doing its bit toward promotion of scientific investigation merely by the installation of an analytical laboratory, which, sooner or later, becomes a routine department either for the testing of mill supplies or for the checking of individual lots of yarn or cloth as they pass through the mill.

"It cannot be said too often that fundamental research has nothing to do with the working out of specialized problems which happen to confront individual plants or individual groups of plants comprising specific branches of the industry. It is instead an examination of the premises on which our present processes of textile manufacture are based. This does not mean that a program of fundamental research should be started on the belief that these premises, either in whole or in part, are wrong. Such a program should merely take it for granted that we do not know whether many of them are wrong or right.

"A logical argument in selling a group of men on the idea of fundamental research in an industry is of course by means of examples—that is, citing specific cases of results accomplished by such a program in other fields. This method has been used in detail in nearly every discussion of the subject. While admitting the value of this, I feel that any intelligent manufacturer who once understands the real meaning of fundamental research needs nothing but his own processes of logic to convince him that the good to be achieved far outweighs any material cost. I cannot believe that a mill man, with any sort of experience, can delude himself with the idea that he is necessarily getting maximum quality and quantity performance from his equipment.

"The finishing branch of the textile industry is, in my opinion, an excellent example. Any one familiar with starching formulae, for instance, and with the manner in which desired finishes are obtained in the average plant, must be impressed with the fact that this whole process can never be placed upon a scientific and fool-proof basis until more is known regarding the characteristics and effects of the individual constituents comprising a starch mix.

"It is in connection with the scope of the proposed research institute that the greatest difference of opinion will develop. Many feel that it should be localized at the start to one particular branch of the industry—particularly, the cotton branch. This is largely a question of psychology. Let us suppose that the first step is launched by the cotton people. Is it not logical to suppose that the other branches will allow jealousy to prevent them from co-operating at some later date when it is deemed advisable to extend the scope of the institute? Is it not equally logical to suppose that the other branches would be spurred into action on their own hook and would create individual institutes of their own; thus resulting in needless and expensive duplication of effort? There are so many technical problems which are common to all branches of the industry, and which, up to a certain point, can be worked out in a general way for all. I think the ideal organization is that developed in England, where they have individual associations for the various branches, but all co-ordinating and co-operating as a textile research organization.

"Furthermore, it is a matter which concerns every factor in the fields of fibre production, yarn and cloth manufacture, cloth finishing and wholesale and retail distribution. In this connection, it is the belief of many that technical research should be closely linked with merchandising research, in order that the industry may determine not only the best way in which to produce a material, but also the best way to create a market for that material when produced. Consequently, it is quite within reason to imagine a merchandising research branch operating in close co-operation with the technical research program.

"While much of the question of organization of a research institute is involved in details, these details are extremely important if it is to accomplish the broad purposes for which it is established. In order to insure the crystallization of the best thought of the industry on these details, it is necessary to have as a nucleus two types of men—men with money and men with technical ability. In other words, neither the mill executive nor the technical men can float this project alone. Consequently, every selling argument must be directed toward teaching the doctrine of fundamental research to the men with the funds and industrial influence as well as to those who may be expected to take the most active part in the application of research results.

"In addition, it is going to be necessary, as has been pointed out repeatedly, to secure the co-operation of pure scientists who will bring to the task minds unhampered by conceptions based on years of internal experience, which conceptions may be either wrong or right. Furthermore, while avoiding all traces of government subsidy or control, it is necessary to secure the co-operation rather than the antagonism of those government bureaus which have already accomplished a great deal along independent lines of fibre research and other matters. Universities, with their resources, can also be helpful to such a program.

"In all of this, however, it should be remembered that the idea is a centralized organization and that no unified program can be developed if we continue to be content with efforts scattered over a broad number of agencies working as individual units. In other words, the utilization of



these agencies cannot take the place of a central institute with its own staff and laboratories and equipment.

"Probably one of the most difficult details of organization to settle is that of assessment—nor can any one determine the best way in which the financing of the institute should be arranged. However, it should be taken as basic principle that a "piker" plan of financing will defeat its own ends.

"While fundamental research, as stated above, is far more than applied research as practiced in many individual plants, the latter is a logical sequel to the former. In other words, instead of curtailing the number of plant laboratories, the development of a successful fundamental research institute presupposes the establishment of a far larger number of these individual laboratories where the broad results achieved in the institute may be applied to actual practice. It can easily be visualized as a remarkable feeder for a new group of technical men which will infuse the industry with a broader conception of its possibilities.

#### Conclusion.

"Fundamental research is not a fetish; it is a practical idea of tremendous importance to both management and workers. To the former it offers at least a partial solution to some of the problems reflected in periodic stages of depression and acute foreign competition; to the workers themselves it offers at least a partial solution of one of the gravest problems with which they are faced—that of the inflexibility of textile manufacturing organizations. Operatives with any intelligence are coming to realize that manufacturers are not trying to get their services at a minimum price, but, on the other hand, are severely handicapped by the more or less inflexible profit margin under present manufacturing and merchandising conditions.

"The formation and proper promotion of a research institute program in this country is inevitable. There is no logical reason for delay in its initiation, outside of the need for extreme care in developing the principles and details of the prosecution of the plan."

In seriously considering the project, I would suggest the appointment of a joint committee of members of the various textile associations, instructed to learn the sentiment concerning the establishment of a research laboratory on fundamental lines, like the one in England, together with the approximate estimate of its annual cost. If it can be maintained at an amount no greater than that of the Shirley Institute, it would not tax the cotton mills in this country as much as one cent per spindle per year; certainly such a contribution could not be figured into the cost of the product appreciably, and probably would not need to be increased for some years. In that time certainly either its benefits would be demonstrated or its futility seen.

The future success of the cotton industry, owing to its great growth, particularly in the Southern States, is more dependent than heretofore on lower production costs and better quality of product. If such is your belief, then should not the best guidance be procured in highly trained men, devoting their time and talents to searching for the cheapest raw materials and the most economical and scientific methods of manufacture? Ought we not make every effort to imbue those engaged in the cotton industry with the importance of such new knowledge and its helpful effect

on the intelligent workers in our mills? Conditions of workers will be improved; salaries and wages increased because of greater interest in the work done under better guidance; disputes more quickly settled, and difficulties more easily overcome. New lines of development will be opened as we are released from the limitations of tradition and precedents. The latter now hold us to narrow profits, whereas, these same profits might become larger, safer and more easily procured.

Those who are interested in the future welfare and growth of our mills should realize the opportunity offered, and have faith in its possibilities. The American manufacturer is an optimist and most certainly the cotton manufacturer must be, or else how can he be content to continue on in face of the uncertainties in his raw material and labor costs, to say nothing of the competition he meets in a highly organized market in selling his product? Men of ability are not lacking, nor should there be any question of finding the money required, even in the face of having to wait several years before practical results are realized.

Surely no one can doubt that cotton itself is cheaper today than it would be had the chemist not found values in the cotton seed, formerly thrown away. Technology in industry is vital if industry is to keep at the front in world needs, and must be continuous. It is becoming to be thought an asset to industrial plants.

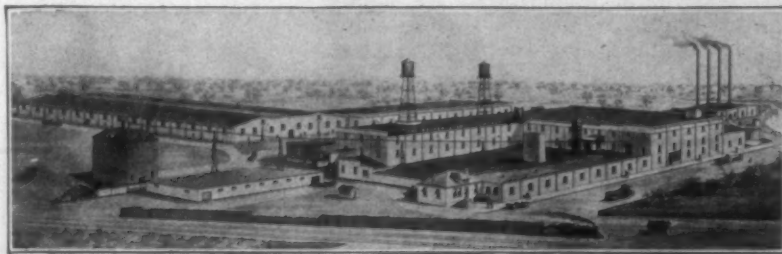
The cotton manufacturers today find it necessary to secure a market for their surplus in excess of domestic requirements, and must sell it in competition with the lowest costs in other countries; to do so, surely they must have all the knowledge available. Should we not inspect our mental batteries and perhaps exchange them as we find more thought must be given for the morrow?

Progress in this direction must necessarily be slow, and step by step, but it should be made with courage in the outlook, keeping the object constantly in view and encouraged with vigorous support. Let us announce this object as our ideal, and surely our country's leadership in the industry will result. No one can afford to close his eyes in self delusion that he alone can ascertain all obtainable facts or knowledge for the highest development. No industry is ever developed to its greatest usefulness by obstinacy or timidity. Most all of us are daily occupied with the existing troubles and complexities of our business, but can we afford to let ourselves be deaf to those who are ready to lessen these burdens with more profit by exact knowledge? The entire industry will grow better only by sustained effort to improve it. Plant managers and foremen will soon be more co-operative as they see scientific help translated into dollars—meaning wages and profits.

In closing my remarks, I will suggest that, if a research laboratory is considered, a suitable location for housing it must be undertaken; and, as the textile mills are mostly located in the Northern and Southern States along the Atlantic Coast, a location near the National Capitol would be a logical one, particularly so in view of the availability of the staff and equipment of the Bureau of Standards, which can be helpful in problems of testing and standardization.

I will now leave my thoughts on this important subject with you in the hope that your Association will take a real position on it, and one favorable to its development; and that you will secure the full co-operation of the other Associations.

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## Seventy-Five-Cent-Dollar in Industry

By S. F. Fannon, Director of the Department of Public Service, Sherman Service, Inc., Boston, Mass., before Southern Textile Association.

I am sure that it is a pleasure for me to be here and have a part in your program. I oftentimes wonder if we realize the value of getting together and enjoying the good will that is expressed in such meetings as this. Rubbing shoulder to shoulder, elbow to elbow, learning the value of a man outside of the clothes he wears, the home he lives in, or the business in which he is engaged. We cannot hope to build a home, city or nation, and build it well, unless we first lay the foundation of good will. Good will is the prime factor in business. We have erased from our blackboards the statement, "the public be damned," and we have written in its place, "the public must be pleased," or "the customer is always right." I am certain that each and every one of us realizes that a certain part of our profits today are directly due to this principle of good will in business.

And yet men, with all the lessons we have had, with all that we are learning about good will, I wonder how many of us have ever stopped to realize just what we are suffering in this country because of the lack of application of good will in its most fundamental application—not toward our customers, but toward our employees, whose hands and brains make possible production in quality and quantity. Do you realize that because we have failed to develop, as industries all over the country, a feeling of good will between employer and employee that we are losing 25 per cent of every dollar that we are investing in the pay envelope, that industry is putting one dollar in the pay envelope from which it is receiving but seventy-five cents in return today? A seventy-five-cent dollar in business! What a stupendous loss—a loss which at once creates an economic waste, that cannot help but affect employer, employee and the entire country.

Let us consider for a moment or two the various major factors found in industry. Take machinery. We have ever spent a large amount of time and money upon machinery, that from it we might receive the maximum return for every dollar invested. We have kept our inventors busy applying their genius toward the development of this factor, that we might secure a higher production and the largest possible return on every dollar invested in machinery.

Day and night we are working upon the problem of raw materials. We have created our own research departments that we might locate sources from which we might secure a constant supply of the proper quantities, and thus eliminate all losses in raw materials.

There is hardly a newspaper or periodical published today that does not contain an article on management. Highly developed courses on management are to be found in the curriculum of our larger universities. We are putting forth every possible effort in order that there may be no loss in the dollar invested in management.

The same can be said of merchandise and market. The matters of style, the elements of fashion, the question of seasonable goods, the various channels of distribution, and numerous other related phases are all under continual scrutiny, not only by individual manufacturers, but also by associations of manufacturers, in practically all lines today. We are maintaining experimental laboratories for the purpose of obtaining quality, decreasing cost, and developing new and additional uses of products, that we might secure the maximum return for the dollar invested in merchandise and market.

But when we come to the dollar invested in the human factor we find quite a different story. It does not seem possible that men who have shown such intelligence and foresight in handling the dollars invested in these other factors, would fail in many instances to provide against a loss in the dollar invested in men. There are a few employers who give intelligent and sympathetic consideration to the viewpoint of the workers. These employers are receiving a larger return for the money invested. Nevertheless, the truth remains that we are almost universally neglecting the dollar invested in the payroll envelope.

Are we to admit that cash invested in plant and equipment exerts a more powerful appeal to the executive than cash invested in payroll? Is it possible that a machine made of iron and steel is more attractive to the executive than a machine made of flesh and blood? Man-power is vitally essential to machine-power and to the profitable operation of any industry. All factors found in industry and business depend upon the loyal support, intelligent co-operation, and harmonious production of the human element.

Nevertheless, mechanical factors commonly receive 95 per cent of the executive's attention, and the crumbs of 5 per cent are thrown to the human factor. In many plants at this moment engineering specialists are engaged in studying and improving conditions of equipment and process. This is as it should be—executive appreciation of science in machinery and processing adds to profit. But in how many plants will you find management sufficiently enlightened to realize that science in the human factors pays large dividends?

Why is it that we are paying 95 per cent attention to plant and equipment and only 5 per cent to men? One man said to me, "Mr. Fannon, I will tell you why. America is a business nation. Being a business nation she thinks in dollars and cents. Thinking in dollars and cents, the executive quite naturally thinks of his largest investment, and his largest investment is in plant and equipment." Now this is a fallacy. Our largest investment is not in plant and equipment but in the dollars and cents

(Continued on Page 14)



# HOUGHTON

## GOOD BUSINESS

*An Advertisement by Chas. E. Carpenter*

ONCE upon a time there were two prisoners confined in the same cell and the only property they had between them, for which either cared anything, was a prohibited jackknife. But instead of loaning the knife to his cell mate, the original owner sold it; then when he wanted it he bought it back and so on this continued until their ten years' terms were served. Having no currency they kept books on the wall of the cell and with each sale each made a profit of 10%. I believe that the knife cost the last buyer something around \$100,000. But the knife was actually worth no more than when it was originally purchased. All of which goes to prove that there is a vast difference between an actual profit and a book profit.

Some wise gazabo who must have had a hard commercial knock or so, to make him so wise, once said, "There is no profit in being in business and being your only customer." That was said many years ago, for I learned it before I went to work and it is as true today as when it was first said. It is the principle upon which Henry Ford and many of the most successful concerns in the World, do business.

Henry Ford in his book says, "We make nothing we can buy." And that is my motto. But so many folks think to the contrary. "We make our own soap," "We make our own size," "We make our own oil," "We make our own belting," are frequently asserted with pride by textile mill owners. And if they be right in their theory, I wonder why they do not raise their own sheep, grow their own cotton and operate their own railroad?

A banker once said to me, "Don't make anything you can buy, even if you have to pay a little more, for the smaller the load in the way of idle organization and plant, you have to carry in slack times, the less the

loss. We look with disfavor on credits of concerns who want to keep anyone from making a profit on them."

We once called upon a large textile mill to explain the merits of a new oil and were referred to the chief chemist. He listened to our story and then replied, "If you have what you claim, you have a good thing, but if we use it we will make it ourselves." Now what do you think of that? This chief chemist had his own position to protect. The more he could make in the alleged, individual oil works of his company, the surer his job was and the higher his pay. He was a chemist, not a merchant and probably never had a minute's experience in merchandising. He was very proud of the sulphonating plant which he had installed. We don't know whether sulphonating plants came off Noah's Ark or not, but if they did, they were up-to-date compared with this one.

When we asked him what in a general way he considered evidence of quality of a sulphonated oil, he replied, "Naturally the one with the least water in it." If that opinion be true, why do they put any water in a sulphonated oil? Why sulphonate the oil at all?

The truth is that the oil is sulphonated to make it soluble in water and to enable it to take up the greatest possible quantity of water consistent with the service it is to render and therefore the sulphonated oil which will take up the most moisture is the best and not the one which will take up the least. And any practical mill man knows this, which proves that there are many things which cannot be learned in a laboratory. We have worked in a laboratory and we ought to know.

Still chemists are a necessity. We have a bunch of them and they are all good fellows, but we don't let any chemist run our plant. We would as leave think of letting a lawyer run it.

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# Operation of Fly Frames

**Desirable Amount of Twist.**—The principle to work on is to insert just sufficient twist to enable the slubbing, intermediate, or roving to be wound on the bobbin without either stretching or breaking, and also permit the material to be unwound at the next process without either of the faults mentioned taking place.

**Effect of Hank Roving on Twist.**—Finer the hank slubbing, roving, etc., from the same cotton, and the more twist is required to obtain sufficient strength.

**Influence of Quality of Cotton on Twist.**—Longer the staple of cotton and the less is the amount of twist necessary for a given hank of roving, as, for example, good Egyptian cotton compared with ordinary American cotton.

The better the grade of each variety of cotton, the less the twist required, as, for instance, American good middling would not require as much twist as low middling.

**Effect of Creel Conditions on Twist.**—Badly worn skewers at the bottom end, or the point broken off; porcelain footsteps cracked, rough or broken out altogether; and waste in the upper or lower bearings of the skewers all tend to cause stretched material on its way to the back rollers. If any of these unfavorable conditions exist, obvious

remedies should be attempted before increasing the twist to compensate for the increased tension imposed on the material to rotate the bobbin. The creel should also be vertical, and the roving guide rods set in the correct position.

**Influence of Dimensions of Bobbins on Twist.**—The longer the lift, the greater the amount of twist required because of the increased angle occupied by the roving from the extremities of the lift to the guide rod, especially when unwinding the few final layers. More twist is also necessary when smaller empty bobbins are used for a given diameter of full bobbin.

**Other Details Regarding Twist in Roving.**—If roving with a little more than the ordinary amount of twist is spun into twist-way yarn without altering the twist wheel at the ring frame, a slightly stronger yarn will result.

In some cases, when the cotton is not up to the standard, one or two less teeth at the twist change wheel of the roving frame will greatly improve matters at the roving and ring frames. Conversely, when the cotton is working very well, a larger twist change wheel by one or two teeth may be adopted; this is of special advantage when there is a shortage of rovings.

The coarser the counts of yarn

spun from a given hank roving, especially at the mule, and the more twist will be required in the roving to enable the latter to withstand the strain of continually restarting the rotation of the bobbin and pulling it round at a quicker speed.

The creel conditions at the mule and ring frame ought to be as favorable as possible to facilitate easy unwinding of the roving without any stretching taking place.

There is a slight difference in the length of material delivered by the front rollers of a fly frame and the length wound on the bobbin, and this disparity—generally an elongation—should be taken into account when calculating the turns per inch inserted in the roving. It is of vital importance that excessive winding tension at the roving frame be avoided, otherwise it is certain to stretch the roving.

**Influence of Twist on Amount of Production.**—An increase in the amount of twist reduces the production as the speed of front rollers is reduced. If insufficient twist was previously inserted, however, the production would very probably actually increase by inserting a little more twist, as there would be fewer breakages and stoppages.

**Effects of Insufficient Twist.**—The front rollers revolve quicker by using a larger twist change

wheel, but production may actually be less, owing to an excessive number of ends breaking. Stretched material in the creel of the next process, or if stretched during withdrawal, is very disastrous, especially if using single roving at the spinning process. In addition, it is a source of discontentment amongst operatives.

**Disadvantages of Too Much Twist.**—The roving will be more difficult to draft at the next process, and may necessitate the rollers being set wider. Speed of front roller at roving frame is less. Leather covered top rollers at the mule or ring frame become hollow sooner. It is better, however, to err on the side of a trifle too much twist than on too little.

**Constant Numbers to Calculate the Twist.**—In one method the twist constant multiplied by the square root of the hank will give the approximate amount of twist required. A good guide is as follows:

	Kind of Cotton.	Twist Constant.	Intermediate Hank.	Twist Constant.	Roving Hank.	Twist Constant.
Sea Island	1.5	.65	5.25	.7	18	.78
Egyptian	1.25	.67	4.0	.8	14	.94
American	1.0	1.0	1.5	1.13	4.5	1.09

For ordinary American cotton, another method of calculating the

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approximate amount of twist at any fly frame is as follows:

$$/1.33 \times \text{hank}$$

$\sqrt{\text{length of fibre}}$

A smaller constant is required for Egyptian, say, 8 instead of 1.33.

The amount of twist is mainly governed by the type of cotton, hank, and whether slubbing, intermediate, or roving. Each carder should record the exact amount of twist being inserted at each fly frame, together with such prevailing conditions as hank, type of cotton, length of staple, whether carded or combed, etc.

#### Faults and Remedies.

**Single and Double.**—The causes of these faults are as follows. Piecing full bobbins to the wrong end when creeling; bobbins running empty quicker than the tenter can replace with full bobbins; an end broken at the front rollers and carried by the air current so that it is attached to an adjacent end passing through another flyer; the tenter carelessly allowing the ends to overlap for inches, and even feet, when creeling; tenter not a good creeler, and hence more ends break down than otherwise, either before or after the piecing reaches the front rollers; an end broken down owing to a slub or clearer waste in the slubbing or intermediate blocking the traverse guide hole at the intermediate and roving frames respectively; a defective top roller, or a rough place on one of the bottom rollers, causing lapping; single or double in drawing frame sliver, slubbing or intermediate. Excessive speed of the frame, insufficient twist in the slubbing or intermediate, and excessive resistance to the bobbins revolving in the creel all results in more frequent breakages and the fault of single. When the tenter unrolls the several feet, and even yards, of slubbing or intermediate from an almost empty bobbin and then attaches the end from the full bobbin to the termination of the old end, the length length in some cases is carelessly allowed to hang down (instead of being wound on to the full bobbin), and is sometimes taken forward by the end from another bobbin. An overlap of  $\frac{1}{2}$  in. is ample when creeling.

All single or double which may have been wound on to the bobbin at the front of the frame should be removed by the tenter, and especially should no intermediate frame enter be allowed to violate this rule. Some mills adopt a system of returning all rovings which the spinning department find to contain the fault of double, and the roving frame enter concerned is expected to unwind the faulty material before it is again placed in the creel at the spinning process.

#### Cut Roving.

This fault indicates that the roving has a thin place at intervals, almost as if it was cut completely. The causes may be detailed as follows: The pairs of rollers set too close; bottom roller strained; a tooth broken out in one of the roller wheels; badly worn cap nebs; roller gearing in a dirty condition, or meshed too deeply; sections of bottom rollers loose at the connec-

tions; leather coverings of top rollers badly pieced; too much draft between the front and middle pairs of rollers.

#### Slubs.

Distinctive terms are applied to certain forms of slubs, such as flyer leg slubs, thick slubs, clearer waste slubs, flat dirt slubs, and so on. The causes of slubs in slubbing, intermediate and roving are as follows: Waste or fuzz on creel tops attached to full bobbins laid thereon; loose fly accumulated on tops of bobbins in the creel; drawing frame sliver containing pieces of clearer waste; an end breaking at the front rollers and becoming attached for a short distance to the end passing through another flyer. Tenters carelessly wiping down the roller beam and allowing some of the fly to pass along with the ends between the flyers and front rollers; waste not removed often enough from creel guide rods and parts surrounding the top and bottom rollers; waste gathering in the hollow leg and flyer eye, and dragged along by the roving at intervals; tenters allowing some of the waste to become attached to the roving on the bobbin, or to the roving extending from the hollow leg to the bobbin, when cleaning the flyers before doffing; waste not removed often enough from the top clearers of fly frames; thick, short piecings made during creeling; traverse guide not set properly. An end broken at the front and, instead of the material from the front rollers becoming attached continuously to the next end, only short lengths are twisted in along with the next end, the draught set up by the revolving flyers directing the loose end to have a little detached very frequently; cleaning the shafting, drums, pipes, etc., above the frame while in motion, without any provision for preventing the falling waste becoming attached to the roving. When there is an unusually large number of ends breaking down, due, for example, to a poorer class of cotton, or the frame in a bad condition, even the best of tenters cannot cope properly with the work and more slubs are made than otherwise.

Very strict measures are taken in some mills to prevent flat dirt slubs, especially in fine spinning mills. It is one of the most difficult faults to overcome in cotton spinning mills today; in fact, some of the combed yarn spinning mills regard it as the worst form of slub to eliminate. One of the precautions taken in some cases is that every hour the undercarder collects the flat dirt, which should be already removed from the clearers by each drawing frame tenter.

#### Dirty and Oil Stained Roving.

It is almost impossible to absolutely prevent this objectionable fault. The causes are as follows: Oil stains on drawing frame sliver; excessively oiling the rollers, differential motion, gallews pulleys, spindles, bobbin driving wheels, and starting rod bearings; oil on bobbin rail and clearer covers coming into contact with empty bobbins and full bobbins; oily, cracked, split or broken bobbins; sweaty hands and fingers; throwing full bobbins care-

(Continued on Page 32)

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## The Seventy-Five-Cent Dollar in Industry

(Continued from Page 10)

invested in the payroll envelope. In the average business cash invested in payroll will exceed cash invested in plant and equipment within two or three years, even the most unusual enterprises' payroll will exceed plant investment within five years.

Take for example your own plant. Figure its cost as compared to your annual payroll and you will find that there is not much difference between the two—the amortization of your plant is probably on a twenty year basis—your payroll is paid every year.

And yet, how we safeguard the investment in plant and equipment. He would be a foolish man who would allow his plant to go a single night without proper insurance. But how many plants today have a protection on the larger investment, that of the payroll envelope? Necessary? Absolutely! Our industrial fire losses have averaged two hundred million dollars yearly—strife losses have equalled two billion dollars—a risk and waste ten times as great as that of fire—and though it has been tried, no insurance company has as yet been able to withstand the losses in the writing of strife insurance policies. And what is the cause of strife but the lack of good will and common understanding.

Many employers have tried to secure improved returns on payroll investment by placing industrial spies in the plant to report delinquent employees so that they may be discharged. It is no more sound to fire the average delinquent workman than it is to scrap a valuable machine simply because it isn't operating well. This antiquated practice is utterly hopeless of success because no system of spyism can do no more than deal with symptoms, leaving the causes as firmly entrenched as ever.

Other employers have tried to secure improved results on payroll investment through the various activities known as welfare work. They tried to win the co-operation of their employees by giving them something. Labor does not want patronage—particularly when it assumes large proportions and lays itself open to criticism as undesired activities paid for involuntarily by the employees out of money taken from their pay envelopes.

Some employers think that wages alone control productive effort. This is unsound because thousands of workmen who are getting a large day's pay are delivering from 25 to 50 per cent less than a full day's work. It oftentimes turns out that the more the employer pays, the less the employee delivers. This fact may well furnish food for thought to employers who are increasing wages in the hope of increasing production.

Other employers think that vocational skill controls productive effort.

There are, however, countless employees who are vocationally fit, but who are delivering from 25 to 50 per cent less than a full day's work. Some of the shortest producers are well trained men in their vocations.

Sherman Service has proved that the factor which controls the productive effort of every workman is his "motive." If a man kills another man, the law recognizes that motive controls action and the State will ascertain the motive for the act. But aside from acts governed by law the existence and power of motive has been little understood.

In industry, the motives of workmen exert a tremendous influence for or against productive effort, and are thus the root of vast losses on payroll investment. And yet employers pay little or no attention to the motives of employees.

In various plants considerable attention is given to motion-study, but not to motive-study, although the motions of the workmen are controlled by their motives. Sherman Service has established the fact that every working force is made up of three types of employees, irrespective of the size of the plant, kind of product, open or closed shop, or any other condition. Not three types of employees by sex, creed, vocation or rate of pay. But three types as regards motives: Conservative, Radical and Neutral.

The proportions vary somewhat from one plant to another, but we have established through our analysis that in 100 typical employees, 40 per cent are of conservative motive, 40 per cent of radical motive, and 20 per cent of neutral motive.

The ten employees of conservative motive produce a full day's work. There is no loss on their payroll dollar.

But the ten employees of radical motive produce only 50 per cent of a full day's work. There is a loss of 50 per cent on their payroll dollar.

And the eighty employees of neutral motive produce only 75 per cent of a full day's work. There is a loss of 25 per cent on their payroll dollar.

The net result in this case, which is typical, is a loss in production value of 25 per cent of payroll investment per 100 employees.

An employee of conservative motive is a 100 per cent producer for the reason that he believes that it pays to apply himself loyally and diligently, and to give his employer as much as possible. His daily production reflects satisfaction, co-operation and active interest-in-the-job.

An employee of radical motive is a 50 per cent producer for the reason that he believes that it pays to restrict his efforts and to give the employer as little as possible. His daily production reflects discontent, antagonism and extremely active hatred-of-the-job.

An employee of neutral motive is a 75 per cent producer for the reason that he believes that it pays to produce just enough to hold his job. His

(Continued on Page 31)

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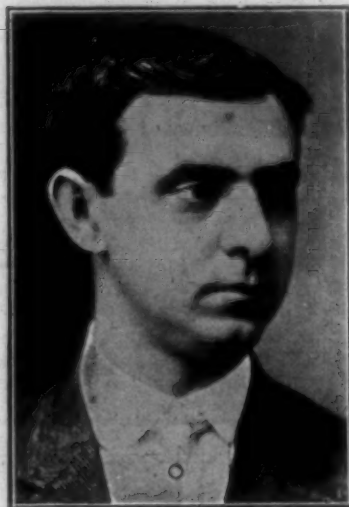


# Meeting of Southern Textile Association

THE semi-annual meeting of the Southern Textile Association, held Wednesday, October 22, at the Woodside National Bank Building, Greenville, S. C., was called to order at 3:15 by President Marshall Dilling. The invocation was by D. W. League, Greenville.

President Dilling explained that this semi-annual meeting would be confined to one session, due to the fact that most of the members of the Association wished to visit the Southern Textile Exposition. The dinner and night session was called off, due to other attractions in Greenville.

While the attendance was small, the meeting was one of the most



**MARSHALL DILLING, President,**  
Southern Textile Association.

interesting in the history of the association. The two feature addresses were unusually good and were received with a great deal of interest by the members.

The first speaker, John Bancroft, president of Joseph Bancroft & Sons Co., Wilmington, Del., one of the leading finishing companies of the country, was introduced by David Clark, editor of the Southern Textile Bulletin.

Mr. Bancroft spoke on the value of research in the textile industry, his address being particularly timely and interesting on account of the work being done by the Association along this line. He stressed the need of "fundamental research," defining this term as "an examination of the premises on which our present processes of textile manufacture are based." This research, he stated, should not be based upon the assumption that our present processes are either in whole, or in part wrong. It should proceed upon the theory that we do not know whether our present methods are right or wrong and that research should be conducted with an open mind as whether we can or cannot improve upon present methods.

Too often, Mr. Bancroft said, a research program degenerates into a mere testing laboratory, a routine department either for the testing of

mill supplies or for checking of individual lots of yarn or cloth as they pass through the mill.

A successful research system that will help the mill meet both domestic and foreign competition, should be developed through co-operation of the mill men and the technical men—men with money and men with technical training. Neither group can develop this work alone, but their combined efforts can work out a research program that will be an invaluable asset to the industry, the speaker stated.

In conclusion, Mr. Bancroft stated that technology in industry is vital if the industry is to be kept at the front in world needs and must be continuous.

Robert W. Phillip, associate editor of Cotton, introduced S. F. Fannon, of the Sherman Service, production engineers of Boston. Mr. Fannon's subject was "The Seventy-Five-Cent Dollar in Industry," and he delighted his audience with an inspiring address, touching upon the human element in industry.

The average manufacturer, Mr. Fannon pointed out, is accustomed to think of his plant and machinery as his greatest investment. He loses sight of the fact, the speaker said, that the pay roll investment is the great investment the manufacturer has and that in an average mill, the pay roll exceeds the plant investment every two and one-half years. The way to increased profits is through the realization of a greater return on the pay roll investment, rather than through a mere effort to increase production, he stated.

Increase in production and a consequent increase in profits cannot be obtained through higher wages alone, Mr. Fannon explained. The governing factor in all production is the motive that actuates the individual worker. To increase production, it is necessary for the employer to develop in the employee a greater motive or incentive to more work. This can be accomplished, he stated, by education of the employees, explaining that such education is not concerned alone with books and school rooms, but should be a definite program that will give the employees a better understanding of relation of their efforts toward the whole economic structure of business and a clearer knowledge of how their well being is inseparably linked with the success and prosperity of the industry in which they are employed.

The address of both Mr. Bancroft and Mr. Fannon are published in full elsewhere in this issue. Both of them contain a great deal that should commend them to the interest and consideration of every mill man in the country.

The Association tendered both speakers a rising vote of thanks for their contribution to the meeting.

At the conclusion of Mr. Fannon's address, David Clark made a motion that the time and place of the next meeting should be fixed by the

president and vice-president of the Association, the motion being unanimously carried.

David Clark then made a motion that the Southern Textile Association take official recognition of the work of the Texas Textile Association, which is composed of the superintendents and overseers of the mills of Texas and which is working along the same lines as the Southern Textile Association. This motion was carried and President Dilling appointed Mr. Clark and R. W. Phillip as delegates to the coming meeting of the Texas Textile Association, instructing the delegates to convey to the Texas Association the commendation of the Southern Textile Association of the work being done.



**S. F. FANNON.**

tile Association of the work being done.

President Dilling requested that all officers of the association meet with him for a short while after the meeting was over to formulate plans for the sectional meetings to be held within the next few months. The meeting then adjourned.

## Among Those Present.

Among those who registered at the booth of the Southern Textile Bulletin at the Textile Show in Greenville as attending the Exposition and the meeting of the Southern Textile Association were the following, this list including those who registered Wednesday morning:

Alter, L. W. Scott, American Tool Works Co., Cincinnati, O.  
Parham, John L., Fossick's Statistical Bureau, Memphis, Tenn.  
Keller, J. C., Night Supt., Williams, S. C.  
Batson, J. M., Supt., Opelika Mfg. Co., Opelika, Ala.  
Askew, B. S., Supt., Consolidated Textile Corp., Henderson, Ky.  
Howarth, John H., Supt., Lanett Mill, Lanett, Ala.  
North, W. C., Atlanta Harness & Reed Mfg. Co., Atlanta, Ga.  
Robinson, J. E., O-Carding, Wateree Mills, Camden, S. C.  
Sanders, J. J., Master Mechanic, Wateree Mills, Camden, S. C.

Davis, G. C., Second Hand Weaving, Wateree Mills, Camden, S. C.  
Morris, J. A., Second Hand Carding, Wateree Mills, Camden, S. C.  
Smith, E. C., Pres., R. I. Warp Stop Equipment Co., Pawtucket, R. I.  
Poland, Carter D., Poland Soap Works, Anniston, Ala.

Alexander, M. O., Supt., Woodside Mills, Greenville, S. C.  
Aldrich, Robert, Aldrich Machine Readell, R. F., Salesman, Aldrich Works, Greenwood, S. C.  
Dutemple, Wm. P., Southern Rep., Whitinsville Spinning Ring Co., Charlotte, N. C.

Brown, Stuart F., Whitinsville Spinning Ring Co., Whitinsville, Mass.  
Iler, Claud B., Salesman, Keever Starch Co., Greenville, S. C.

Wallace, Dan H., Sou. Mgr., Keever Starch Co., Greenville, S. C.  
Castile, L. J., Salesman, Keever Starch Co., Greenville, S. C.  
Kurtz, C. J., Treas., Keever Starch Co., Columbus, O.

Maigatter, C. D., Hart Products Corp., Charlotte, N. C.  
Pierson, John W., Supt., Avondale Mills, Sycamore, Ala.

Hedgpath, A. D., O-Carding, Woodside Mills, Greenville, S. C.  
Sloan, S. M., Sou. Rep., American Supply Co., Greenville, S. C.

Bell, F. G., Jr., Ramsey Chain Co., Greenville, S. C.  
Anderson, Frank G., Sales Agent, Ramsey Chain Co., New York.

Swanton, J. A., Sou. Salesman, Chicago Fuse Mfg. Co., Chicago, Ill.  
Shill, E. S., Sou. Salesman, Chicago Fuse Mfg. Co., Chicago, Ill.

Bagwell, Frank, Supt., Clifton Mfg. Co., Converse, S. C.  
Goff, W. H., Supt., Villa Rica Cotton Mill, Villa Rica, Ga.

Clark, C. C., Salesman, Hart Products Corp., Spartanburg, S. C.  
Shaw, W. S., Salesman, Fafnir Bearing Co., Spartanburg, S. C.

Williams, H. E., Second Hand, Harmony Grove Mills, Commerce, Ga.  
Williams, Odell, O-Cloth Room, Harmony Grove Mills, Commerce, Ga.

Stofer, S. O., Weaver, Alma Mills, Gaffney, S. C.

Lollos, J. H., Master Mechanic, Balfour Mill, Balfour, N. C.  
Lehrer, S., Salesman, Hart Products Co., New York.

Wooten, E. L., Loom Fixer, Anderson Mill, Anderson, S. C.

Ashby, C. A., Loom Fixer, Anderson Mill, Anderson, S. C.

Wooten, Lewis, Anderson Mill, Anderson, S. C.

Phillips, W. T., O-Weaving, Pacific Mills, Columbia, S. C.

Fennell, J. B., Enoree Mills, Enoree, S. C.

Williams, W. C., Loom Fixer, Enoree, S. C.

Mangum, C. L., Avondale Mills, Birmingham, Ala.

Hancock, H. C., Loom Fixer, Orr Mill, Anderson, S. C.

Stehenson, F. C., Loom Fixer, Orr Mill, Anderson, S. C.

Childs, W. E., Loom Fixer, Orr Mill, Anderson, S. C.

Black, Walton, Salesman, Stein, Hall & Co., Greenville, S. C.

Adams, J. W., Loom Fixer, Duncan Mills, Greenville, S. C.

Murphy, E. L., L. V. B. Tension Co., New Bedford, Mass.

Barnes, Joseph, L. V. B. Tension Co., New Bedford, Mass.

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# Southern Textile Exposition

Greenville, S. C.—At 10 o'clock Monday morning the Sixth Southern Textile Exposition was formally opened at Textile Hall, Greenville, S. C. The exercises were short and simple. The president, William G. Sirrine, called the great audience together. Manager Earle Mauldin threw a switch and the busy machinery came to rest. The glowing electric signs faded out. At the same instant the orchestra began a lively march. The great crowd made its way to the front of the building facing the stage.

The president, William G. Sirrine, in a brief address, thanked those whose co-operation had made previous expositions, and this, the greatest of them all, a success. He paid a tribute to the fidelity of the trustees who had served for the past seven years through the difficulties of erecting the building and increasing the size and importance of the expositions year by year. He expressed appreciation for the work of Vice-President James A. McPherson and Manager Earle Mauldin, for the work of the various committees, for the support of the Chamber of Commerce, Southern Textile Association and other organizations which he said he could not attempt to name, whose assistance made the present success of the undertaking a reality. He thanked the business

and trades papers of the nation and the newspapers of the South for the publicity which they have given.

Mr. Sirrine then introduced Mayor R. F. Watson, who welcomed the exhibitors and guests. He first spoke to the exhibitors and referred to the fact that while the South is the producer of raw cotton it is to New England and the North that we principally owe the ingenious and wonderful machinery which converts this raw product into a commodity which clothes the world.

In the name of the citizens of Greenville and of this entire section he welcomed the manufacturers of machines, accessories and supplies. He spoke of the importance of their industry in the civilization of the world, and referred to the fact that it was due to the very things that are seen here in Textile Hall that civilization has made such great strides in recent years. Mayor Watson referred then to the visitors whom he said Greenville was glad to see and whose patronage made the exposition a success. He concluded by saying that the keys of the city were in the hands of exhibitors and guests alike, and that his office was always open to relieve any visitor's wants.

The president of the hall then introduced W. P. Conyers, president of the Chamber of Commerce. Mr.

Conyers in an eloquent speech referred to the fact that this exposition represented the great accumulated wealth that had grown out of the textile industry; that it was typical of the importance of the industry and that there were here represented the oldest and largest concerns engaged in the manufacture of machinery and accessories to be found in the United States. He expressed the appreciation of the Chamber of Commerce that these great industrial enterprises had gathered together through their representatives in Greenville and made possible the greatest textile exposition ever seen in America. He welcomed them all to the city and at the conclusion of his remarks formally declared the exposition open.

The orchestra began with the familiar bars of the Star Spangled Banner and the great audience stood at attention.

As the last notes died away Manager Earle Mauldin threw the switch and the hum of the spindles began to rise, the click of the shuttle smote the ear, the electric signs began to blaze, the thousands of yards of scarlet and white garlands standing out in bold relief against the background of the huge illuminated balls that hung from the roof. The greatest textile show that the South

has ever seen was thus auspiciously begun.

Machinery worth in excess of half a million dollars, according to officials of the show, will be viewed by thousands of persons during the week. The place will be something of a mecca for cotton mill men from all parts of the South, and for many from New England and even from the Old World.

The physical arrangements at Textile Hall were unusually successful this year. Most of the heavy machinery, and virtually all of it that makes any considerable noise in operation is located on the first floor. This includes weaving and finishing and some spinning machinery. On the second floor and balcony is lighter machinery and accessory goods. Similar material is found in the new annex adjoining Textile Hall.

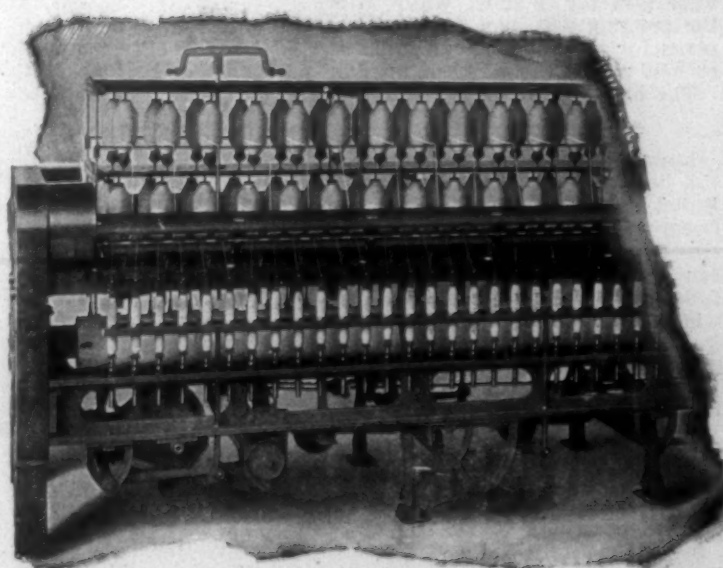
The decorations of the hall are unusually beautiful this year. Varicolored bunting forms the basis of the color scheme and this has been very tastefully arranged.

Taking care of the large number of visiting machinery dealers and mill men has always been one of the problems of the show. However, the housing committee has been very active this year and several hundred rooms, at reasonable prices, (Continued on Page 29)

## H. & B. AMERICAN MACHINE CO.

Pawtucket, R. I.

Southern Office: 814-816 Atlanta Trust Co. Bldg., Atlanta, Ga.



Builders of

### New Pattern Spinning Frames

With Band or Tape Drive

The illustration shows the Head End Section of our New Pattern Spinning Frame, with Improved Builder and Pick Motion. Our machines are of Extra Heavy Construction to withstand high speeds without vibration, thus insuring light running and reduced cost in operation.

We build these machines in all gauges, with either Lever Weighted or Self Weighted Top Rolls.

There are many valuable features embodied in our machines that we would be glad to describe.

Illustrated Bulletin with List of Users sent on Request

## COTTON MACHINERY



# Carding and Spinning

By George M. Ivey

Copy Revised for Third Edition.

(Continued from last week)

Table of Grains in One Yard of Picker Lap

1 ounce=437½ grains.			1 pound=7000 grains.		
Ounces	Grains	Ounces	Grains	Ounces	Grains
2	875	9	3937.5	13½	5906.25
1	437.5	8	3500	13	5687.5
3	1312.5	10	4375	14	6125
4	1750	11	4812.5	14½	6343.75
5	2187.5	11½	5031.25	15	6562.5
6	2625	12	5250	15½	6781.25
7	3062.5	12½	5468.75	16	7000

Table of Draft Constants, 27¾-in. Doffer

Make of Card	Compensating Gear	Plate Gear	Bevel on Doffer	Bevel on Side Shaft	Constant
Whitin	38	—	—	—	2373.80
Whitin	39	—	—	—	2313
Whitin	40	—	—	—	2255.26
Howard & Bullough	—	120	mitre.	mitre.	1600
Howard & Bullough	—	120	24	34	2273.68
(26¾-inch)	—	170	24	34	3221.05
Saco-Lowell (27-in.)	—	120	45	40	1534.6

Constant ÷ draft = draft gear.

Constant ÷ draft gear = draft.

By the use of this table the overseer can quickly figure a set of changes for any card. For instance, take the first constant in the table, 2373.80. This divided by a 20-tooth gear gives a draft of 118.69, by 26, 91.30, by 31, 76.57.

## PRODUCTION

**Rule.**—Multiply the circumference (diameter multiplied by 3.1416) of the doffer in inches by the number of turns per minute, the number of hours in a day, and the number of grains in a yard. Divide this product by 7,000 (grains in a pound), and by 36 (inches in a yard). The quotient will be the theoretical production.

**Example:** If the card sliver weighs 65 grains, and a 24-inch doffer makes 12 revolutions per minute, what is the production in 10 hours?

$$24 \times 3.1416 \times 12 \times 60 \times 10 \times 65:$$

$$7000 \times 36$$

This works out 140, which is the number of pounds per day, from which 5 per cent should be deducted for necessary stops.

A quicker way to get production is to notice how long a lap of a certain weight lasts, and then calculate the number of pounds.

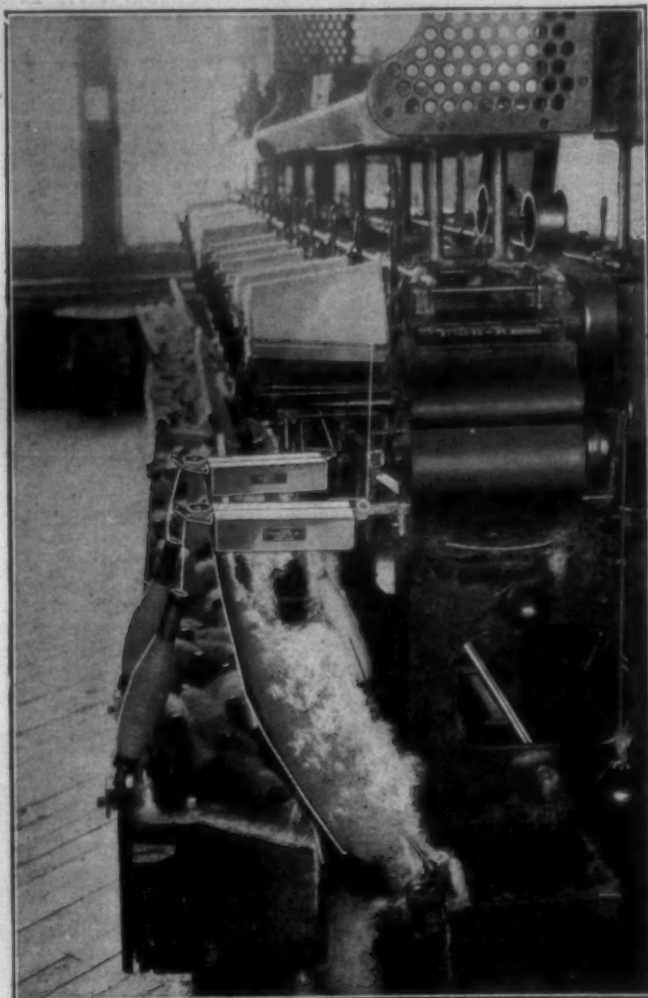
**Example:** If a 35-pound lap lasts 2 hours, what is the production for 11 hours? It will be seen at a glance that it would take 5½ laps a day, and  $5\frac{1}{2} \times 30 = 165$  pounds.

Production Table for Cards for 10 Hours, 27¾-inch Doffer

Revolutions Per Minute	Number of Grains in One Yard of Sliver									
	40	45	50	55	60	65	70	75	80	
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	
8	64	72	80	88	96	104	112	120	128	
8.50	68	76	85	93	103	110	119	127	136	
9	72	81	90	99	108	117	126	135	144	
9.50	76	85	95	104	114	123	133	142	152	
10	80	90	100	110	120	130	140	150	160	
10.50	84	94	105	115	126	136	147	157	168	
11	88	99	110	121	132	143	154	165	176	
11.50	92	103	115	126	138	149	161	172	184	
12	96	108	120	132	144	156	168	180	192	
12.50	100	112	125	137	150	162	175	187	200	
13	104	117	130	143	156	169	182	195	208	
13.50	108	121	135	148	162	175	189	202	216	
14	112	126	140	154	168	182	196	210	224	
14.50	116	130	145	159	174	188	203	217	232	
15	119	135	150	165	180	195	210	225	240	
15.50	124	139	155	170	186	201	217	232	248	
16	128	144	160	176	192	208	224	240	256	
16.50	132	149	165	181	198	214	231	247	264	
17	136	153	170	187	204	221	238	255	272	

NOTE—If the Doffer is 24¾-ins., the production will be 10 per cent less than above.

(Continued on Page 28)



## Mr. Knitter—Do You Realize Your Loss From Waste?

How often do your knitting machines stop because of slubs—heavy and light spots in the yarn?

Do you know the loss of production from this cause? Do you know the amount in dollars and cents—that is, lost in waste that is thrown under the cutter's table due to cutting out holes through the use of imperfect yarn?

Do you realize the difference in production between running good yarn and bad yarn? With labor high, even the same percentage of waste in manufacturing becomes a heavier charge against your costs. Are you taking the best means of meeting this situation?

The successful men in the production of knitted textiles are those who, under the pressure of high prices, make use of the most effective methods of avoiding waste in manufacturing operations.

A Knitter can cut down waste in his plant and increase his production by using the best grade of yarn—that is, free as possible from imperfections. If a lower grade contains even one more imperfection to the mile of 30/1, it means fourteen more imperfections to the pound—fourteen thousand more imperfections to the thousand pounds; one thousand pounds is a small quantity to the user of yarn. Fourteen more imperfections is a severe handicap in the manufacture of any product.

You can positively cut down the waste in production by equipping your winder with the Eclipse Yarn Cleaning Device. By using this cleaner, any grade of carded yarn can be made a ninety per cent better knitting yarn. You cannot appreciate this fact until after you have used the Eclipse Yarn Cleaner.

If you knit direct from cones, take this vital matter up with your "spinner"—he can deliver you a better yarn.

Ask us to send you full information—or better still—we will send our representative to give you an actual demonstration upon your request. When you write, please mention the type of winder or spooler you use.

**Eclipse Textile Devices, Inc.**  
Elmira, N. Y.

Makers of

Automatic Yarn Cleaner, Automatic Stop Motion, Yarn Tension Device  
Eclipse Van Ness Dyeing Machine



# Southern Textile Association

(Continued from Page 15)

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 Humphries, John E., Sou. Mgr., Dary Ring Traveler Co., Greenville, S. C.  
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 Jones, W. H., Supt., Valley Waste Mills, LaGrange, Ga.  
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 Simmons, T. B., Enoree Mills, Enoree, S. C.  
 Wilburn, H. W., Enoree Mills, Enoree, S. C.  
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 Ellis, J. S., Spinner, Thomaston Cotton Mills, Thomaston, Ga.  
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 Horn, A. E., Supt., High Shoals Mfg. Co., High Shoals, Ga.  
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 Anderson, W. S., Salesman, Carolina Specialty Co., Charlotte, N. C.  
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 Johnston, Percy H., Chemical National Bank, New York City.  
 Riemer, Harry, Daily News Record, New York City.  
 Jackson, F. C. M., Salesman, Standard Chemical Products Co., Hoboken, N. J.  
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 McDonald, B. L., O-Spinning, Mary Lelia Mills, Greensboro, Ga.  
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 Quinn, Peter T., Service Man, Draper Corp., Hopedale, Mass.  
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 Melchor, G. L., Asst. Sou. Agt., Howard Bros., Worcester, Mass.  
 Benson, G., Machine Operator, Howard Bros. Mfg. Co., Atlanta, Ga.

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 Wynne, I. E., Rep., Universal Winding Co., Boston, Mass.  
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 Enloe, W. P., Roanoke, Ala.  
 Williams, B. L., Roanoke, Ala.  
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 Lovern, E. E., Salesman, Wilson Co., Newnan, Ga.  
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 Young, F. J., Bemis Cotton Mill, Bemis, Tenn.  
 Burnett, W. D., Duncan Mills, Greenville, S. C.  
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 Farmer, G. L., Pelzer, S. C.  
 Martin, L. C., Carding, Beaumont Mfg. Co., Spartanburg, S. C.  
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 Toney, J. R., Commerce, Ga.  
 Crocker, F. J., O-Carding, Commerce, Ga.  
 Fagans, C. V., Commerce, Ga.  
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 Barnes, Cliff, O-Weaving, Exposition Mills, Atlanta, Ga.  
 Gammon, J. S., O-Spinning, Exposition Mills, Atlanta, Ga.  
 Vann, G. M., Supt., Eastman Cotton Mills, Eastman, Ga.  
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 Crocker, E. C., O-Weaving, Commerce, Ga.  
 Medley, H. B., O-Weaving, Commerce, Ga.  
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 Tennyson, Fred O., Whitney Mfg. Co., Whitney, S. C.  
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 Widdup, W. R., Andrews Loom Reed Harness Co.  
 Peterson, Verd, State Director Vocational Education.  
 Brooks, H. C., Honea Path, S. C.  
 Mathews, C. H., Second Hand Weav-

ing, Whitmire, S. C.  
 Abrams, J. C., Jr., Supply Clerk, Whitmire, S. C.  
 Dyson, A. E., Cloth Room Overseer, Joanna Cotton Mills, Goldville, S. C.  
 Painter, J. I., Spinner, Joanna Cotton Mills, Goldville, S. C.  
 Gilbert, L. R., Supt., Caraleigh Mills Co., Raleigh, N. C.  
 Stone, M. G., Gen. Supt., Paolet Mfg. Co., Spartanburg, S. C.  
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 Pritchett, Geo. W., Sou. Mgr., Morse Chain Co., Charlotte, N. C.  
 Morse, W. D., Mgr. Sales, Morse Chain Co., Ithaca, N. Y.  
 Matthews, H. E., Engineer, Morse Chain Co., Charlotte, N. C.  
 Fisher, C. A., O-Weaving, Cannon Mfg. Co., Kannapolis, N. C.

Ingram, T. D., Supply, Cannon Mfg. Co., Kannapolis, N. C.  
 Smith, A. P., Weaver, Consolidated Textile Corp., LaFayette, Ga.  
 Donahoe, A. T., Mechanical Eng., Cole Engineering Co., Chattanooga, Tenn.  
 Sims, C., Scottdale Mills, Scottdale, Ga.  
 Johnson, T. W., O-Spinning, Scottdale Mills, Scottdale, Ga.  
 Griffith, J. W., M. M., Scottdale Mills, Scottdale, Ga.  
 Hammett, W. D., Second Hand, Chiquola Mfg. Co., Honea Path, S. C.  
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 Nebel, Wm., Pres., Nebel Knitting Co., Charlotte, N. C.  
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 Smith, E. C., Pres., R. I. Warp Stop Equipment Co., Pawtucket, R. I.  
 Mileskey, J. F., Sales Dept., R. I. Warp Stop Equipment Co., Atlanta, Ga.  
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 Shelton, J. B., Weaver, Cramerton Mills, Cramerton, N. C.  
 Garey, J. P., Mgr., Eclipse Textile Devices, Inc., Elmira, N. Y.  
 VanNess, H. E., Supt., Eclipse Textile Devices, Inc., Elmira, N. Y.  
 Hasbrouck, B., Salesman, Eclipse Textile Devices, Elmira, N. Y.  
 Dluos, Uro, Salesman, Eclipse Textile Devices, Elmira, N. Y.  
 Uttrich, L. E., Salesman, Eclipse Textile Devices, Albany, N. Y.  
 Brown, Peter E., Salesman, Eclipse (Continued on Page 27)

# "BRETON" MINEROL PRODUCTS FOR COTTON

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# The Bleaching of Cotton Goods

## Woven With Artificial Silk Stripes, Borders and Headings

(By Percy Bean, F.C.S., in the Textile Recorder.)

MANY of the troubles experienced by bleachers in dealing with artificial silk striped goods are due to faulty treatment before the cloth reaches the bleach works. Sometimes they are due to lack of knowledge on the part of the manufacturer as to the correct method of sizing the warp yarns, but more often they are due to the manufacturer either sizing the artificial silk and cotton yarns together, a method altogether wrong, or not making suitable allowance, in the matter of tension during weaving, for the difference in the behavior of artificial silk and cotton yarns when they are wet out during bleaching and finishing. In all cases the artificial silk must be sized separately from the cotton.

It has been found by experience that artificial silk yarn stretches considerably when wetted out under tension, as happens in warp sizing. This increased length is retained until the yarn or fabric is again wetted out, when it returns to about the original length, and keeps this reduced length if not dried under tension. If allowance be not made for this behavior when the beams are put in the loom, the cloth

will be puckered after it is bleached and finished, or the viscose silk may be torn by the excessive tension on the drying cylinders. In order to get over this difficulty less tension should be placed on the beam containing the artificial silk yarn than on the one containing the cotton during weaving.

As a general rule it may be stated that viscose silk would be warped about 3 per cent longer than cotton, it being understood that the yarn has been measured before it was sized.

### The Sizing of Artificial Silk Yarn.

In sizing artificial silk yarns a specially designed sizing machine is used. This consists of a brass or wooden size trough in which a brass roller or bowl revolves. The size is picked up from the brass roller in sufficient quantity for the purpose of weaving by this method, and the danger of breaking the yarn by pressure is avoided. After picking up the size the yarn is passed over a large drying plate which is heated by steam at a pressure of about 25 pounds, and finally on to the weaver's beam. The yarns should not be sent through a "nip," as is the cus-

tom when sizing cotton yarns, nor should they be immersed in the size. It has been found that if the yarns are passed under an immersion roller they take up too much size and lose their pliability, and if the excess of size be squeezed out in a "nip," the yarns are damaged.

In the actual process of sizing the artificial silk yarn is passed through a comb placed at the edge of the entering side of the size box, then through a reed fixed at the going out side of the box. After picking up the size it passes over the drying plate, and finally through a corresponding reed fixed at the end of the drying plate. An endeavor is made to produce a good, hard beam with as little tension as possible.

It is necessary to have at least 5 per cent greater length of artificial silk than of cotton yarn on the beam in the loom to cover the amount of stretch in warp sizing. This is in addition to the allowance of three per cent, making eight per cent in all. This extra length is taken up in weaving because of the lesser tension placed on the artificial silk beam. If this allowance be made, the artificial silk yarns shrink to the length of the cotton yarns when

wet out during the process of bleaching, thus producing a level cloth free from puckers.

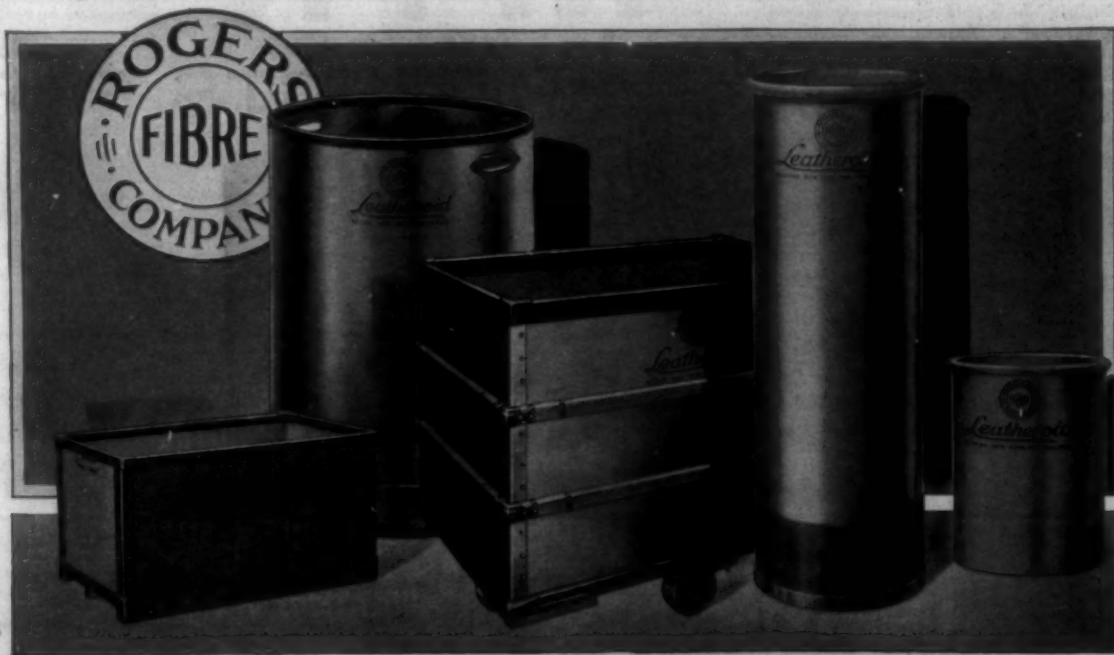
In some works it is customary to size artificial silk yarns in the hank. This method is quite satisfactory for some classes of weaving, and there is little or no stretching, and, therefore, less allowance to be made in weaving.

The best form of size to use for artificial silk yarn is some form of soluble starch, or one of the thin boiling starches, such as those prepared by the Corn Products Co., Ltd., or gelatose gum. The addition of a little gelatine or gum tragacanth is an advantage. As a rule the size is made of such a strength as to contain about one-half pound of starch in each gallon of the mixture.

### The Bleaching of Cotton Goods Woven With Artificial Silk Stripes.

It has long been thought that artificial silk would not stand the process of bleaching as carried out for cotton cloth. This is not correct if the right kind of silk be used in making the fabric. It has been generally understood, also, that artifi-

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cial silk yarn would not stand boiling in soda ash or caustic soda without damage. As a matter of fact, English viscose silk is not damaged in any way by boiling in these chemicals providing they are not used too strong, and the cloth is not subjected to rough handling whilst wet. It has also been found that the maximum solvent action in the cold is produced by a solution containing 8 per cent of caustic soda, and that English viscose artificial silk is not damaged when subjected to the action of cold solution of caustic soda as strong as 30 deg. Tw. Higher strengths than this tend to pulp the silk.

In practice it is not unusual to boil English viscose artificial silk under a pressure of 30 pounds for eight or ten hours with a solution containing 3 per cent of soda ash, or a solution of caustic soda at 2 deg. Tw., without causing the slightest damage. In many cases, according to the type of cloth it may be boiled in the rope form, providing it be not subjected to pressure in the "nip" of any machine whilst it is wet. On this account the washing processes should be carried out on the "wash wheel" or in becks arranged so that the cloth can be showered with water, and not on the ordinary bleach croft washing machines constructed with heavy wooden bowls. Instead of passing through a squeezing machine to remove the excess moisture, as is done in the case of cotton goods, the cloth should be hydro-extracted. At the same time it may be accepted as a fact that the best way to boil cloth containing artificial silk stripes is to carry out the process in the open width either in a high pressure kier of the Jackson type or, for small lots, on a suitable jig.

The following details may be taken as representing an average process for bleaching cotton goods woven with artificial silk stripes, if the silk be English viscose. Many other types of artificial silk would not stand this treatment, and care must be taken that the quality of the silk is suitable for the operations involved.

#### Bleaching Process for Cotton Goods Woven With Artificial Silk Stripes.

1. Singe.
2. Steep in water or in a bath of malt (diastase).
3. Wash.
4. Boil in high pressure kier with caustic soda at 2 deg. Tw., or soda ash solution (3 per cent).
5. Wash.
6. Sour in hydrochloric or sulphuric acid at  $\frac{1}{2}$  deg. to 1 deg. Tw.
7. Wash well.
8. Chemic in a solution of hypochlorite of soda at  $\frac{1}{2}$  deg. to 1 deg. Tw.
9. Wash well.
10. Sour in acid at  $\frac{1}{2}$  deg. Tw.
11. Wash well to remove all trace of acid.

Instead of souring, after washing off from the chemic liquor, the cloth may be run through a solution of bisulphite of soda (antichlor) and then well washed.

The addition of Tetralene to the

kier liquor will materially assist in the removal of the fats used in sizing the cotton yarn and the natural fats and waxes of the cotton, thus reducing the time required for boiling.

The processes of steeping, washing, boiling, souring and chemicking may be carried out on a suitable jig. As a rule, however, the chemicking and souring are conducted in wooden becks to which an overhead winch is fixed. Instead of showering the cloth with the chemic and acid solutions the cloth itself is circulated by means of the winch. This winch draws the cloth out of the cistern, allows it to come in contact with the air, and passes it back again into the liquor in the beck.

The author would suggest that before any goods are subjected to boiling, a preliminary test should be made on a small pattern of the cloth by boiling it in the kier along with goods which will stand the full treatment described. If it be found that damage has been done, a modified treatment must be substituted. The following method has been found to give good results, although it will not produce as good a white on the cotton as the first process gives. It is, however, safer in cases where the bleacher has no knowledge of the type of artificial silk contained in the cloth which has been submitted to him, and also where the fabric contains woven, colored cotton stripes as well as artificial silk.

#### Modified Bleaching Process for Cotton Goods Woven With Artificial Silk Stripes.

1. Singe.
2. Steep in malt bath (diastase).
3. Wash.
4. Scald in open kier or on jig with soap and Tetralene for eight hours.
5. Wash.
6. Sour in hydrochloric acid,  $\frac{1}{2}$  deg. to 1 deg. Tw.
7. Wash well.
8. Chemic in hypochlorite of soda solution at  $\frac{1}{2}$  deg. to 1 deg. Tw.
9. Wash well.
10. Pass through antichlor (solution to contain 1 oz. of bisulphite of soda to each gallon of water).
11. Wash well.

The amount of soap required in this treatment is about 1 oz. to 1 gallon of water, and  $\frac{1}{4}$  per cent of Tetralene on the weight of cloth undergoing treatment.

The author suggests the use of an antichlor in preference to souring after chemicking in all cases where the source of the artificial silk is doubtful. In all cases where colored cotton stripes are present in the fabric the modified process of bleaching should be adopted, because many of the colors, especially the vat colors, will not stand boiling without marking off.

#### Venezuela Textile Goods.

Textiles are obtained mostly from exception of hosiery, which is pre-England and the Continent, with the ferred from the United States because of its good quality.—(Consul Harry J. Anslinger, LaGuaira.)

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D. H. HILL, JR.  
JUNIUS M. SMITH

Managing Editor  
Associate Editor  
Business Manager

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## Manufacturing Margin

THE term "Manufacturing Margin" as related to yarn manufacturing was originated by the Southern Textile Bulletin but is coming more and more into general use.

It is based upon the idea that a spinner should consider is the difference between his net returns and his total cotton cost.

That figure gives him the amount he has to cover labor salaries and overhead and furnish a profit and is his manufacturing margin.

A spinner may sell yarn at a certain price per pound but the amount that comes to him is the price less 5 and 3 per cent commission and discount and the freight, and he is only concerned with the net returns.

He may pay a certain price for cotton but his cotton cost per pound is the price of his cotton plus 15 per cent waste, which is the average waste in manufacturing carded yarns, and the 15 per cent added gives him the total cotton cost.

The cost of his cotton per pound of yarn deducted from his net returns from the sale of his yarn gives him his "manufacturing margin."

In order to assist the spinners in quickly determining "manufacturing margin" when receiving offers we compiled a table and those spinners who are not now using it can obtain copies free of charge by writing us. We have different tables for weaving yarns and hosiery yarns.

If a spinner is offered 46 for 20-2 yarns today and can buy cotton at 23 a glance at the table shows that he has a manufacturing margin of 14.68 cents. His net return for the yarn is 41.74 and his total cotton cost 27.06, the difference being 14.68 and it should be easy for the spinner to deduct his labor cost and overhead, etc., and determine his probable profit. It will certainly be

much more accurate than guessing between 46-cent yarn and 23-cent cotton.

The use of the "Manufacturing Margin" tables will do much to make yarn quotations more uniform and will decrease the number of sales made below cost.

## Unreliable Reports

A New York Company which advises that it is organized and operated to keep employers promptly advised of the exact labor conditions in their respective factories, and also of the general labor conditions all over the United States has recently been sending letters and circulars to Southern cotton mills.

The first paragraph in one of their letters is as follows:

"The 1,611,000 men and women, employed at the weaving and spinning looms of America, are awaiting the word of one man to leave in non-productive idleness 35,000,000 spindles. This man yesterday stated that he would give this word very soon, and in a manner calculated to upset the plans of the mill owners. Thomas F. McMahon, president of the United Textile Workers of America, the one man to whom the many mill workers in New England and the South are looking for guidance, yesterday said that there would be a strike in the textile mills of the country."

This silly statement should be enough to convince anyone that the company has no reliable information.

Nobody North or South is paying much attention to Thomas Failure McMahon and the number who would strike in Southern mills at his command would by comparison make a Wednesday night prayer meeting look like a world series game.



New England Homestead

## The Wooing of Agriculture

THE following is the leading editorial in the American Child, the bulletin of the National Child Labor Committee:

Mr. David Clark, of the Southern Textile Bulletin, and Mr. James A. Emery, general counsel, National Association of Manufacturers, are both now making up to the farmers. We have no objection to either or both of them courting the rural maiden, but we feel that this fondness has developed rather late. Heretofore these two swains have been calling mostly in town.

Why this unusual, and for them, sudden interest in the farmer? What has led them from parlors with red plush chairs to barns and spring houses?—The Child Labor Amendment. They want to defeat that and so have begun to flirt with the coy maidens of the great open spaces.

We are glad to see these two boys getting into good company. We are not disposed to hurt their chances for winning country maidens, but we feel it our duty to call the attention of farmers to the fact that lately both Mr. Emery and Mr. Clark have been saying that in the matter of regulating the employment of children Congress is not to be trusted. If they begin any of this sort of foolish talk to farmers or their chil-

dren they should be shown the door—for through repeated experience the farmers have come to know that agriculture's best refuge from exploitation by industrial interests is the Federal Government.

WILEY H. SWIFT.

Wiley Swift is just jealous because we cut him out. Miss Farmer told us, confidentially, that she used to like Wiley but after we showed her what an awful prevaricator he was and how he had kept Congress from exempting farm children from the Child Labor Amendment she would have nothing more to do with him. She is of the opinion that Wiley should do his courting among the old maids that run the Children's Bureau and try to tell married women how to raise their children.

Old maids are not particular and even a professional uplifter and habitual loafer like Wiley Swift might find favor with one of them.

## American Cotton Manufacturers' Association

THE annual meeting of the American Cotton Manufacturers' Association will be held in New Orleans, La., on April 25. This decision was arrived at at the meeting of the Board of Governors in Greenville, S. C., on Wednesday of this week. A. W. McLellan, of the Alden Mills, New Orleans, is president of the association.



## Personal News

J. O. Bennett has become superintendent of the Mary Louise Mills, Mayo, S. C.

W. H. Harrison has resigned as superintendent of the Mary Louise Mills, Mayo, S. C.

Will Phillips has resigned as overseer of carding at the Mary Louise Mills, Mayo, S. C.

C. C. Gault has accepted the position of overseer spinning at the Mary Louise Mills, Mayo S. C.

L. G. Capshaw has accepted the position of superintendent of the Southern Mfg. Co., Granite Falls, N. C.

W. J. Carrothers, of Fort Mill, S. C., is now second hand in night carding at the Wymoj Mills, Rock Hill, S. C.

S. I. Batchelor has been promoted from overseer of carding to superintendent of the Imperial Cotton Mills, Eatonton, Ga.

J. C. Farris has been promoted from second hand in No. 1 carding to overseer No. 2 carding at the Clover Cotton Mills, Clover, S. C.

H. T. Huneycutt has been promoted from overseer No. 2 spinning to assistant superintendent of the Clover Cotton Mills, Clover, S. C.

A. W. Farions, who recently resigned as overseer No. 1 spinning at the Fulton Bag and Cotton Mills, Atlanta, now has a position at the Henderson Mills, Henderson, N. C.

Malcom D. Link has resigned as second hand at the Laurel Mills, Laurel, Miss., to become overseer at the Worth Mills, Fort Worth, Texas.

E. W. Edwards has resigned as superintendent of the Hamilton-Carhertt Mills No. 1 and 2, Rock Hill, S. C., to accept a similar position at the Patterson Mills Co., Roanoke Rapids, N. C.

J. C. Sanders, son of J. W. Sanders of the Cotton Mills Products Co., with eight mills in Mississippi and Alabama, has accepted a position with Tatum, Pinkham and Greey, commission merchants of New York.

W. H. Bigham has resigned as second hand in spinning at Fort Mill Manufacturing Company, No. 2, Fort Mill, S. C., to become overseer spinning at the Wymoj Mills, Rock Hill, S. C.

George N. Roberts has been appointed District Sales Manager of the New York offices of the Chicago Fuse Co. The sales organization has been considerably strengthened by additional men and will provide even better service on Union and Gem products.

### Gains in Imports of Cotton Goods

Washington—September imports of cotton goods, as classified in detail by the Department of Commerce, totaled 11,117,145 square yards, or about 2,000,000 square yards more than previous month. Broadcloths and fabrics under the heading of "lawns, organdies, nainsooks, cambrics and similar fine goods of average yarn number above 40" accounted for the largest percentage of this gain.

There was also a fair increase in the imports of sateens woven with not more than seven harnesses. Other classes listed showed only slight variation from August or registered declines.

#### Record for Broadcloths and Poplins.

Imports of broadcloths and poplins, totaling 6,927,692 square yards, were the largest volume of any month since the Government began compiling these figures last February. The broadcloth shipments into this country have averaged between 5,000,000 and 6,000,000 square yards per month, during the period under consideration. September's total of nearly 7,000,000 square yards compares with 5,217,978 during August, which was lower than any previous month; 6,490,276 in July; 6,244,238 in June; 5,686,000 in May; 5,868,000 in April and 6,261,000 in March.

Under the classification of "lawns, organdies, nainsooks, cambrics and similar fine goods of average yarn number above 40," the Department of Commerce listed 1,171,186 square yards, or an increase of nearly 500,000 square yards as compared with August's total of 723,761 square yards. The September total is the largest of any month recorded so far this year.

There was a fair increase in the imports of sateens woven with not more than seven harnesses, notwithstanding that foreign goods of this class have been finding it increasingly difficult to compete with American makes, the production of which has been increasing and at prices that are generally under relative imported grades. The September total was 2,046,087 square yards, compared with 1,748,942 square yards in August, and 2,052,087 in July.

The total imports of sateens woven with eight or more harnesses was 292,916 square yards, compared with 472,340 square yards in August; 436,473 in July and 438,384 in June.

Imports of voile during September came to 328,309 square yards, compared with 311,474 in August, 387,770 square yards in July and 351,768 in June.

#### Crepe Imports at Low Point.

A further decline was noted in crepes during September, the total, 185,421 square yards, being the smallest of any month so far this year. Last month's imports of these goods compared with 324,897 square yards in August.

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Nickel-Plated  
Copper-Plated  
Plain Finish

Improved  
Loom Reeds  
Leno Reeds  
Leno Reeds  
Combs



## MILL NEWS ITEMS OF INTEREST

**Waco, Tex.**—The Miller Cotton Mills are selling stock with a view of the erection of an additional mill of 10,000 spindles.

**New Braunfels, Tex.**—The Planters and Merchants Mills contemplate the erection of two mills of 10,000 spindles each. One of their plants will be at New Braunfels, Tex.

**Sherman, Tex.**—Clinton Phelps is associated with L. W. Robert, of Atlanta, Ga., in a cotton mill building proposition, which, it is said, will involve an expenditure of \$5,000,000.

**Landis, N. C.**—The Linn Mills Company has placed contract with the Parks-Cramer Company, Charlotte, for the installation of the high duty air conditioning equipment in their new addition.

**Dallas, Tex.**—The Dallas Cotton Mills will replace all of their old looms with new automatic looms. The company now has 334 looms making flat and double filling duck and drills.

**Atlanta, Ga.**—The Pierce Manufacturing Company, of New England, has purchased the plant of the Blount Buggy Works and will move their textile equipment to Atlanta.

**Eastman, Ga.**—The Eastman Cotton Mills will install 10,000 additional spindles and necessary looms to weave the yarn. At present the mill operates an equipment of 9,568 spindles and 250 looms on 40-inch sheeting.

**Charlotte, N. C.**—The Charlotte Knitting Company will spend \$30,000 for the installation of new equipment, including a number of new knitting machines.

**Natchez, Miss.**—The new machinery now being installed in the Cotton Products Company, to replace old equipment, cost approximately \$20,000. It is expected that this equipment will be ready to operate within 30 days.

**Lawrenceville, Ga.**—The Lawrenceville Mills, which completed construction of an addition some time ago, will probably purchase looms within the next few weeks, and install some early in the year. At present the company operates 7,000 spindles.

**Galveston, Tex.**—The industrial committee of the local chamber of commerce is hard at work in furthering the success of the proposal to establish a million dollar cotton mill here, according to a report made by L. W. Reed, chairman, at a recent meeting of the board of directors. Large Texas textile interests have offered to finance 50 per cent of the proposed enterprise.

**Marble Falls, Tex.**—The Marble Falls Cotton Mills, which has its new building about complete and work well under way on the dam for the power plant, will operate 15,000 spindles and 400 looms. W. G. Broadfoot, of Atlanta, Ga., will be general manager of the mill.

**Charlotte, N. C.**—The Unrivaled Hosiery Mill, of Williamston, Pa., is planning to remove its plant to some Southern town. S. D. Bausher, president, and John B. Kesher, treasurer and general manager, have been South inspecting a number of possible sites, but have not yet determined upon a location.

**Pine Bluff, Ark.**—The spinning machinery for the Arkansas Textile Company, which was recently organized here, as noted, is being purchased from the John K. Stewart & Sons Knitting Mills, of Amsterdam, N. Y. The latter company will dis-

pose of its spinning equipment, but continue to make knit goods products.

The Arkansas Textile Company is now remodeling a large cotton compress building for a 10,000 spindle yarn mill and expects to later enlarge its plant. The building will have 75,000 square feet of floor space and is expected to be ready early in 1925. William Nichols, Pine Bluff, is president; Clarence Stewart, Amsterdam, vice-president, and Leroy Beers, Amsterdam, secretary. Mr. Beers will be general manager and will move to this place.

**Mexia, Tex.**—The subscriptions to the stock of the Mexia Cotton Mills now amount to \$350,000 and the erection of a cotton mill is assured.

**Alabama City, Ala.**—The Dwight Manufacturing Company is planning to change their entire mill from steam to the electric drive.

**Griffin, Ga.**—A new cotton mill is to be built here by the Unity Investment Company, which was organized by W. F. Ingram and associates, of this plant. The company has a capital of \$500,000 in common stock and \$150,000 in preferred.

The new mill will be located on a site two miles north of Griffin on a site of 168 acres. It will have 400 looms and necessary spinning and other equipment and will make satens.

J. E. Sirrine & Co., Greenville, S. C., will be the engineers. It is planned to have the new mill in operation in August, 1925.

W. F. Ingram is president and treasurer of the company, James M. Brawner, vice-president, and Chas. H. Murry, secretary. Mr. Ingram was formerly president of the Kincaid Mills.

### Georgia Mills Running Full Time

**Atlanta, Ga.**—Every cotton mill here and hereabouts is running full time, and the majority are sold ahead to the first of the year.

However, prices offered for materials are still generally unsatisfactory, and therefore mills are not inclined to accept orders further ahead, although many could sell many months ahead if they would accept prevailing bids, but such would be unprofitable and poor business policy, mill executives assert.

The Fulton Bag and Cotton Mills are running full time, with orders heavier than usual.

Lullwater Manufacturing Company, at East Point, while continuing its three-day schedule, due to repairs, is running its mills at Thomson and Greenville, S. C., full time, according to S. E. Broadnax, secretary-treasurer, who reports good volume of orders.

Gate City Cotton Mills are operating full time and sold ahead to the first of the year.

Piedmont Cotton Mills are running full time, with Mill No. 1 operating 60 hours and Mill No. 2 day and night, 120 hours per week.

Whittier Cotton Mills are running full time.

Scottdale Cotton Mills and Georgia Duck and Cordage Mills are running full time.

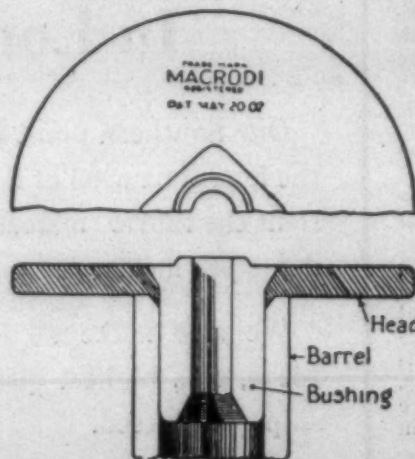
Exposition Cotton Mills are operating full time, according to George S. Harris, president of the mills and head of the Cotton Manufacturers' Association of Georgia. "There still is a waiting attitude on part of buyers," but, he said, "with cotton declared to be selling near, or at, cost of production to the farmers, it appears that the bottom has been reached and if cotton develops a strong upward trend, buyers undoubtedly would place orders more freely and at more satisfactory prices to mills."

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### Danville Manufacturers Encouraged

Danville, Va.—Optimism for the near future of cotton and knitting goods manufacture was expressed here in a gathering of industrial and business leaders of the city with a view of exchanging opinions on the present trend of business and its immediate prospects.

George W. Robertson, general superintendent of the Riverside and Dan River Mills, stated that the cotton manufacturing industry of Danville and the South would be on a full time basis at the present if some way of stabilizing the price of cotton had been arrived at. It was his opinion that present conditions will prevent a return to normal production in the cotton manufacturing trades until cotton gets lower and until the trade receives assurance that a level has been reached which may not be departed from a moment's notice.

Even with the unsettled current conditions the mills of his company are gradually returning to a better working schedule. Within a week he hoped to see 75 per cent of the machinery in the many plants running on full time. By the first of the year, if general trends keep up, it is possible that full time operation may be in effect.

L. B. Conway, manager of the Danville Knitting Mills, stated that the weekly payroll of his concern was at the highest level it had been since the heavy business of the war period, but made it plain that conditions in the hosiery and knit goods market were not yet what they should be. His plant is running

practically at full time, but, due to the habit of merchants, which is getting firmly fixed, of stocking up very short and of only ordering what is needed at the moment, the factories are continuing on an uncertain basis, with no assurance of good business for any time ahead.

Mr. Conway comments on the change in the style demands made by the trade in women's hose, where his concern two years ago was making 25 styles, it is now found necessary to produce 132 varieties. A vast part of the increase is due to a demand for varying materials in manufacture.

### Fall River Curtails Heavily.

Fall River, Mass.—Curtailement in the textile industry in this city continues on an extensive scale, with the print cloth division curtailing about 70 per cent, and the fine goods division approximately 30 per cent. The print cloth mills are the hardest hit, having made no gain in over a year, while the fine goods mills have greatly improved their condi-

tion in that period. The print works division also shows considerable gain during the last few months.

### Committees for Annual Meeting

Many prominent manufacturers of New England are on the committee for the annual meeting of the National Association of the Cotton Manufacturers, which is to be held at the Copley Plaza hotel in Boston on Nov. 12 and 13, the call for which has been sent out by Harry C. Meserve, the secretary.

Announcement of the committee is now made by Maj. Meserve. The committee of arrangements is headed by Fessenden S. Blanchard, his associates being George D. Flynn Jr., and John A. Sweetser. The reception committee consists of W. Association, chairman; George A. Irwing Bullard, treasurer of the Boyd, James A. Burke, H. M. Coulter, Philip Dana, Nathan Durfee, Charles H. Fish, Walter B. Hall, Parkman D. Howe, Lindsay Morris, William

S. Pepperell, John A. Perkins and Jude C. Wadleigh.

The resolutions committee consists of Russell B. Lowe, chairman P. Y. DeNormandie, A. W. Dimick, George D. Flynn Jr., and James Thomson.

The committee is made up of Russell H. Leonard, chairman; J. A. Atwood, Harry L. Bailey, Walter B. Hall and Charles H. Merriman Jr.

The ladies committee is headed by Mrs. Robert Amory, and the ladies entertainment committee by Mrs. Morgan Butler.

Arrangements for the meeting, which will bring cotton men to Boston from all parts of the United States, are now nearing completion.

### Total Cotton for Past Year 12,725,286 Bales.

Washington, Oct. 20.—Cotton production and distribution for the season 1923-24, as compiled by the Census Bureau in its annual report, show the total supply to have been 12,725,286 bales and distribution to have been 12,903,176 bales. The excess of distribution over supply, 177,890 bales, was due principally, it was explained, to the inclusion in all distribution items of the "city crop" which consists of re-baled samples and pickings from cotton damaged by fire and weather.

Ginnings during the 12 months ending July 31, 1924, were 10,128,108 bales, net imports 272,179 bales, net exports 5,647,108 bales, quantity consumed, 680,554 bales, and quantity burned 20,000 bales.

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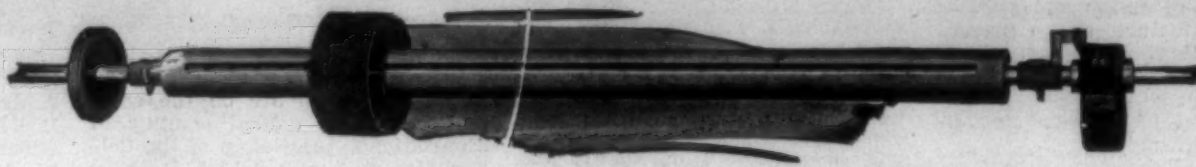
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## Germany Exports Less Knit Goods.

With the exception of wool gloves, exports of wool knit goods were smaller in the second quarter of 1924 than in the first quarter. Glove exports, however, increased from 16 metric tons in the first quarter to 33 metric tons in the second quarter; this increase was due to larger sales to the United States, which took 19 metric tons in the second quarter. The total of exports for the first half year, 50 metric tons, is only slightly below the level of 1923, in the same period of which year 52 metric tons were exported. In underclothing and other wool knit goods, exports decreased sharply during the

semester, as compared with the corresponding period of 1923; likewise the exports of the second quarter of 1924 declined with the first.—(C. T. Steger, Dresden, Aug. 9.)

Investigation has revealed a growing market for silk hosiery in the Stuttgart consular district. The demand for silk stockings is greater than that for socks, although the latter sell well, according to dealers, who state that silk socks are now considered quite the proper thing for daily wear among the better classes, whereas prior to the war, men's silk hose had little sale. The local market is being supplied by the Chemnitz factories. No imported silk hosiery is being sold in the Stuttgart district at present,

but it is generally conceded that if American goods could compete in price, there would be a good demand for both stockings and socks, since the natives usually display a decided preference for clothing of American origin.—(Vice Consul Erik W. Magnuson, Stuttgart.)

## Japan Exports Less Yarn.

Japanese exports of cotton yarn declined in value from 12,770,000 yen in August to 6,220,000 during September, while those of cotton cloth decreased from 32,770,000 yen in August to 23,490,000 during September. This falling off in Japanese exports of cotton textiles is attributed largely to disturbed political

conditions in China which have resulted in cancellations of orders from that country in some cases and requests for deferred deliveries in others.—Based on cable from Acting Commercial Attache H. A. Butts, Tokyo.

## Two Kinds of Education.

When faced with the care of his three grandsons, the children of Mrs. Sweeton, who recently poisoned her husband in Illinois, the old grandfather said:

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(Continued from Page 49)

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 Bruce, G. C., Cloth Room, Monaghan Mills.  
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 (Continued on Page 30)



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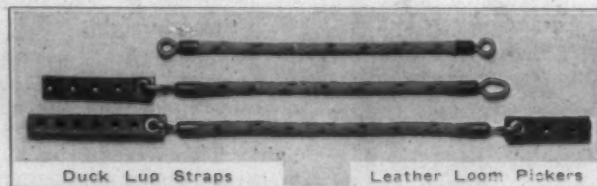
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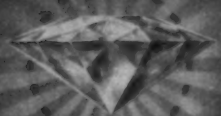


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## Carding and Spinning

(Continued from Page 17)

### GENERAL INFORMATION

The modern types of cards now are equipped with a doffer 27 inches in diameter and either 40 or 45 inches wide on face, though there are cards still in use in some mills with doffers 24 inches in diameter. Tight and loose pulleys are usually 20x3 inches and should run from 160 to 170 revolutions per minute. The card requires about one horsepower.

It must not be supposed that all cotton machinery is built in England and America. There is a great deal built in France and other European countries. The Alsatian Construction Company, besides building a well-known comber, manufactures a card where the flats run backward to the usual direction. This, of course, necessitates the flats being stripped from the rear. It is claimed for this method that the dirty flats strike the cotton first, and the carding process is finished by flats which have just been stripped, and are therefore in a condition to do the most good.

It was formerly the custom to card the cotton twice, where extra yarn was required. It is probable, however, that one modern card can do better work than two of the old style. In carding waste, it is still the practice to card double, and from the character of the material, such practice is necessary.

In most of the large mills it is customary to use the card strips for making coarse yarn, a fair proportion of good cotton being mixed with the waste. A card has recently been brought out which runs the strips into a sliver, and coils it into a can. This may then be run through the drawing frame in any proportion desired. By this method, re-picking and re-carding the material is dispensed with, also a considerable amount of extra trouble in other particulars.

### DRAWING FRAMES

The object of a drawing frame is two-fold. First, to draw out several slivers into one, and thus reduce any unevenness which may exist in any one sliver; second, to lay the fibers approximately parallel. The latter operation is the more important, and is accomplished by four rows of fluted rollers, each succeeding roller running a little faster than the preceding one. The draft is generally equal to the doubling, and the almost universal custom now is to double six slivers into one, and by drawing six, to make the delivered sliver the same weight as the original. Occasionally it is desirable to increase or decrease the weight of sliver at the drawing. This can readily be done either by changing the draft, or the number of ends. Carders have become so accustomed to seeing a draft of six, and six ends up, that they are inclined to think that any other combination would not produce good work. They forget that the drawing frame of twenty years ago usually had only three ends up, and a draft anywhere from three to eight.

Drawing frames are the simplest machines in the mill, and for that reason their importance is often overlooked. The most inexperienced labor operates them, and the consequences are frequently disastrous. If one end breaks on the finishing drawing, the resultant sliver is one-sixth too light. This irregularity runs in a constantly decreasing degree, but increasing length, all through the mill, and many an end on the spinning frame and loom comes down from no other cause.

The metallic roller has now been on the market for a good many years, and is increasing in favor. It certainly gives a constant draft, and on heavy work this is attained with the ordinary roller only by heavy weighting. The metallic roller also stops a great many roller laps, saves cost of covering rollers, and gives a larger production per frame.

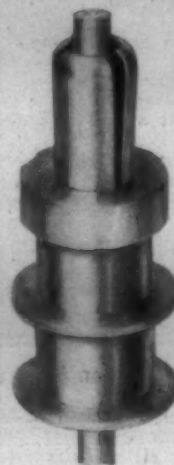
The top clearers for the rollers receive more attention in England than they do in America. As a rule, they are of one style here, namely, flannel bands, resting on the rollers, the accumulating waste being removed from time to time by the attendant. Another method used in England is to place felt-covered rollers on top of the leather rollers, one between the first and second, and one between the third and fourth. These revolve as the frame runs, and take up all the loose fibers. Another method which is largely used where long cotton is necessary, is a broad band of flannel which slowly revolves over the rollers and collects the waste, which is removed either by hand or with a comb.

Twelve or fifteen years ago the electric stop motion was very popular, and many are still being used. However, they are so likely to get out of fix, and as one defect interferes with a good many machines, they are becoming less frequently ordered. All things considered, the mechanical stop motion is probably the more satisfactory.

**Setting the Rollers.**—This is a subject on which a great deal of misinformation has been given. We have seen this rule printed a dozen times: "Set the centers of first and second rollers one-eighth inch further apart than the length of staple," etc. Some authorities even say 1-16 inch. The front rollers are usually 1 1/2 inches in diameter, and the others 1 1/4 inches, so if the two rollers were actually touching, their centers would still be 1/4 inches apart. How, then, could the rule apply to 3/8-inch cotton?

A much better rule is to set the bite of the rollers 1/4 inch further apart than the length of the staple for the first and second line, and in-

## Look Over Your Spindles Now And Be Prepared



Get 8 to 10% more yarn on your bobbins by equipping your spindles with our Patented Clutch.

Don't run your spindles with worn out whorls cut in by bands, which changes the speed of your spindles, therefore making uneven yarn.

Let us change your whorls on spindles, repoint and restraighen same, and save you money.

**Fournier & Lemoine**  
Linwood, Mass.

## \$100,000 INVOLVED IN SUBURBAN LAND SALE

Seventy-five Acres of J. Van Lindley Estate Purchased by First Realty and Loan Company

Over \$100,000 was involved in the sale yesterday of 75 acres of the J. Van Lindley estate, located on the Winston-Salem road just north of the Masonic home, to the First Realty and Loan Company.

This tract of land has a frontage of about 1,700 feet on the Greensboro-Winston-Salem highway. The First Realty and Loan Company is planning to develop it into residential property. The sale was negotiated by T. V. Carter.

The land described above is planted in choice varieties of flowering shrubs, trees, etc., and a clearance price will be made on them to Textile plants or others interested, that can use a quantity. Write for full particulars.

**J. Van Lindley Nursery Co.**  
Pomona, N. C.

## Improved Dobby Chain



Dobby Cords



**Rice Dobby Chain Co.**  
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## MAKE YOUR WANTS KNOWN

Through The

Bulletin Want Department  
Read in More than 95% of the  
Southern Textile Mills

Rate: \$1.50 per inch per insertion



crease the difference  $\frac{1}{4}$  inch for each succeeding set. Theoretically, two cylindrical bodies, regardless of their diameter, touch one another at only one point, but we must bear in mind that the top roller, if leather, has a flattened surface at the point of contact, and the bite extends at least 1-16 inch on each side. If the top roller is metallic, the bite is still further from the center on account of the meshing together of the flutes. The above rule will apply under ordinary conditions, but many cases arise where it is desirable to change this setting. Besides the length of staple, the setting depends on the thickness of the sliver, the speed of the machine, and the amount of draft. If the length of staple were the only consideration, the back rollers would be set the same as the front.

(Continued Next Week)

## Southern Textile Exposition

(Continued from Page 16)

were arranged for in private homes. These, together with the available space in the hotels of the city, will take care of the crowds, it is felt.

Music will be a feature of the show this year. The management of textile hall has arranged to have the Garing Band play afternoons and evenings throughout the week. This musical aggregation has already pleased Greenvillians on various occasions and it is felt that it will meet with equal success at the exposition.

The exposition will continue through the entire week, continuing from 10 to 10 o'clock each day. The Textile Hall and annex, where the exposition is to take place, has been attractively decorated for the occasion, as have the principal streets of Greenville.

Music will be furnished during the afternoons and evenings of the exposition by the Garing Concert Band, of which A. J. Garing, formerly musical director at the Hippodrome Theatre in New York, is the director.

The turnstiles at the entrance to the Textile Hall have been connected with a register which will show the number of persons entering the building. Officials estimate that the attendance will be 40,000 or more during the exposition.

The board of governors of the American Cotton Manufacturers' Association were in session on Tuesday of this week. While this was not officially designated as "mill executives' day," a particularly large number of mill executives were present on that day, many of them remaining throughout the week.

Running machinery is in operation on both the first and second floors of main building and annex, the exhibits being equal in floor space to a cotton mill of 50,000 spindles.

Approximately 900 persons are stationed in Textile Hall during the exposition, demonstrating the various exhibits. One of these exhibits will be a miniature cotton mill, complete in every detail, which will employ 30 persons.

## Fences As Safety Factor

The safety factor in textile mills is attracting increasing attention. A constant menace to the mill property itself has been prowlers and other unwelcome visitors, who trespass upon the premises both day and night—more often the latter.

To prevent this type of trespassing has been a problem of con-

siderable magnitude to a number of mills. This type of prowling has resulted in frequent fires, property damage and other unpleasant incidents. Safety engineers have given the problem much thought, especially with regard to types of fencing which may be used to protect the property.

Many mills have used rather ornamental fencing which has afforded very little, if any, protection. Hedges, concrete walls, wood fences, and wire picket fences—even those with sharp spikes at the top—offer few obstacles to prowlers. Hedges, wood fences and walls are easily scaled, and iron picket fences can also be scaled without difficulty, besides which they permit ingress to dogs, cats and other small animal nuisances.

The type of fencing now very effectively employed is of link wire, at a height of about seven feet, and set so close to the ground that it is impossible for human being or animal to penetrate it. This fence cannot be scaled, because in addition to the most insuperable difficulty of climbing to the top, the fence is further protected by several strands of barbed wire, set at a sharp inward angle from the top of the fence. This barbed wire is an absolute bar to any intruder.

The Hannah Pickett Mills of Rockingham, N. C., have recently installed a fence of this type, the product of the Page Steel & Wire Company, using a wire of interlocking weave which cannot be spread, as can be done with ordinary "diamond mesh". The work of installation was done by General Equipment Co., of Charlotte, N. C., under the direction of C. W. Allison, general manager.

This fencing device is also being used at Charlotte, N. C., to protect the new Charlotte Speedway from intruders, and, because of the unusual demands made upon the fencing for this latter purpose, it has attracted much attention from mills of all kinds, especially in the textile fields. This is on the theory that since it affords adequate protection for so huge a plant as a motor speedway one and a quarter miles in circumference, it must necessarily be adequate for similar protective purposes to mills occupying a much smaller area.

## South African Textile Imports.

Recent imports of cotton piece goods have been below those of the corresponding period of 1923, but orders at present are increasing. Stocks, especially of prints, are short.—Cable from Trade Commissioner Perry J. Stevenson, Johannesburg.

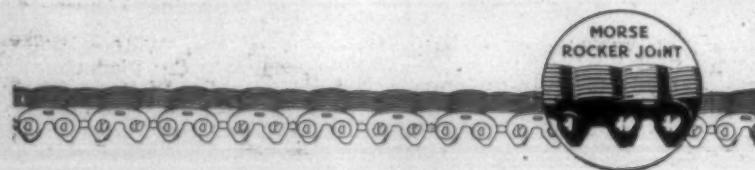
# Morse Chain Co.

## Textile Chain Drives

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## CORPORATION

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Improves Weaving"*

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Textile Chemicals  
for Best Weaving

Seyco Products

The result of twenty years' study and practice in treatment of Sizing and finishing problems.

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**Southern Textile Association.**

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 Dickinson, F. H. & B. American Machine Co., Pawtucket, R. I.  
 Thomason, J. C., Asst. Supt., Hart Cotton Mills, Tarboro, N. C.  
 Hodges, M. B., Dist. Mgr., Chicago Belting Co., Atlanta, Ga.  
 Roberts, Alex., Winston-Salem, N. C.  
 Brigman, C. C., Supt. No. 2 Mill, Lancaster Cotton Mills, Lancaster, S. C.  
 Meggs, B. W., Second Hand, Monarch Mills, Lockhart, S. C.  
 Cabaniss, H. B., Second Hand, Monarch Mill, Lockhart, S. C.  
 Wilson, O. E., O-Carding, Union, S. C.  
 Garrison, M. E., Supt., Glenwood Mill, Easley, S. C.  
 Mahaffee, M. B., Shipping Clerk, Henrietta Mills, Henrietta, N. C.  
 Lambeth, H. L., Student, N. C. State College, Raleigh, N. C.  
 Ruffy, Ed., Student, N. C. State College, Raleigh, N. C.  
 Gaines, T., Student, N. C. State College, Raleigh, N. C.  
 House, O. M., Student, N. C. State College, Raleigh, N. C.  
 Nelson, Thomas, Director Textile Dept., N. C. State College, Raleigh, N. C.  
 Yonemasn, S., Student, N. C. State College, Raleigh, N. C.  
 Mahaffee, G. H., Student, N. C. State College, Raleigh, N. C.  
 Welton, John V., Prof., Carding and Spinning, N. C. State College, Raleigh, N. C.  
 Clark, J. C., O-Weaving, Watts Mill, Laurens, S. C.  
 Roberts, R. O., Mgr., Danville Knitting Mills, Bon Air, Ala.

Aycock, J. A., Engineer, Mandeville Mills, Carrollton, Ga.  
 Mandeville, J. A., Treas., Mandeville Mills, Carrollton, Ga.  
 Iler, Harry B., Salesman, L. R. Watters, Greenville, S. C.  
 Padgett, W. M., O-Weaving, Hoskins Mill No. 2, Charlotte, N. C.  
 Walker, Jas. A., O-Carding, Hoskins Mill No. 1, Charlotte, N. C.  
 McQuaver, J. E., Cloth Room Overseer.  
 Thompson, J. F., Spinner, Oakland Mill, Newberry, S. C.  
 Williams, B. F., Carder, Honea Path, S. C.  
 Gibson, W. H., Jr., Supt., Union-Buffalo Mills, Union, S. C.  
 Hames, J. W., Supt., Exposition Mills, Atlanta, Ga.  
 Doggett, C. S., Director Textile School, Clemson College, Clemson College, S. C.  
 Moore, T. B., Supt., Dixie Spinning Co., Chattanooga, Tenn.  
 Carter, J. P., Supt., Clinton Cotton Mills, Clinton, S. C.  
 Horsley, J. H., Pur. Agt., West Point Mfg. Co., West Point, Ga.  
 Davis, J. M., Supt., Newberry Cotton Mills, Newberry, S. C.  
 Rachliffe, S. N., Mgr. Contract Dept., Carolina Power & Light Co., Raleigh, N. C.  
 Baugh, J. A., Jr., Agent, New England Sou. Mills, LaGrange, Ga.  
 Duncan, E. L., Riverside Mfg. Co., Anderson, S. C.  
 Pearson, J. J., Saco-Lowell Shops.  
 Cheatham, R. J., Asst. Prof., Weaving and Designing, Clemson College, S. C.  
 Greer, R. R., Asst. Welfare Worker, Piedmont Mfg. Co., Piedmont, S. C.  
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Let us **LITHOGRAPH** your Letter Head

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Use Dixon Patent Stirrup Adjusting Saddles, the latest invention in Saddles for Top Rolls of Spinning Machines. Manufacturers of all kinds of Saddles, Stirrups and Levers.

**WRITE FOR SAMPLES**



## The Seventy-Five-Cent Dollar in Industry

(Continued from Page 14)

daily production reflects indifference, non-initiative, and lack of interest-in-the-job.

Thus we have a loss of 25 per cent in production due to incorrect motives of the employees. Correct this motive and we salvage some part at least of this 25 per cent loss which is at once placed on the profit side of the ledger.

Just consider for a moment or two the cash value of these motives. Take these 100 men at \$4.00 per day, and we are putting in the pay envelope each year \$120,000, out of which, as we have just seen, we are losing \$30,000. Twenty-five per cent loss in the payroll isn't very much after all, that is, it isn't very hard to lose. It is only 12 cents an hour on a \$4.00 wage, but don't forget this, there is an octopus with ten great arms reaching out after that 12 cents an hour loss—absenteeism, labor turnover, waste of time, waste of materials, waste of tools, spoilage of machinery, waste of supervision, under production in quality and quantity, inefficient procedure—dissatisfaction, reducing the loss down to 1 2-10 cents an hour for each item.

You are asking, "Is there a remedy, and if so, of what does it consist?" Yes, there is a remedy, and that remedy is education. And, while it seems a simple word, it is not as simple in its application as it seems to you at this time. I don't mean by education that you are to put sea's in a certain room of your factory and then call in your employees and give them certain lessons like in a primary class. Not an education that comes from the executive down, but an education that comes from the men to the men in their own language, the very kind of an education that you give the customer when you call on him. You must place yourself on the customer's level and talk his language, that is the way that education must be applied to the employee.

As a result of fourteen years of practical experience in industrial coordination, we have learned that in the solution of this problem everything depends upon the sincerity and spirit with which you approach it. The method of education is no less important.

Bear in mind that there has already developed a gulf between management and employee and any outward move by management would likely be viewed with suspicion and distrust. Some one would raise the cry, "What's up the boss's sleeve?" "What's he trying to put over on us now?" Again, any stereotyped method of education cannot wholly accomplish the purpose, since it fails to deal with existing pertinent factors, and if the message should be paradoxical with the grievous existing conditions, it is likely to do much harm.

Finally, any direct means "handed down" by management cannot prove effective until the barrier of mistrust now existing has been torn down and a constructive foundation of common understanding, sympathy and appreciation has been built up in its stead. For it is a scientific fact that the same causes will produce the same results.

The remedy, nevertheless, as I have stated before, lies in education, but in order that this may be intelligently applied, there must first be a correct understanding by management of the viewpoint of the employee as to the working condition, wages, supervision, facilities and environment. This analysis can be made by skilled man engineers without in any way disturbing the policy of administration, but careful procedure is necessary in order that this viewpoint will be free of bias and prejudice.

Second, such conditions as are found to exist which present cause for real grievance and which are correctable should be removed.

Then a systematic well-prepared organized campaign of education should be launched, based on careful study. This education should deal with the advantages of our form of government, our industrial system, opportunities for learning and for commercial progress and happiness, and a correct understanding of simple economies so that he may appreciate the many beneficial possibilities afforded him.

The employee should and could be made to understand why the pyramiding of wages without a consistent increase in production is fundamentally unsound and must ultimately react to his own disadvantage, since labor consumes from 80 to 85 per cent of all that is produced.

Your workers can be made to realize that it is the purchase power of the dollar, not the dollar itself, that is the determining factor of their gain. And of equal importance, they could and should be acquainted with the many advantages of "Stick-to-it-ive-ness" on the job—of the particularly favorable and attractive conditions of the plant in which they are employed, and especially of how it will benefit them most if they will serve their employer best and give him their maximum co-operation. They should be disillusioned from such fancied grievances as they may bear—and their negative thoughts should be supplanted by sound understanding of the rebounding gains to them by observance of fundamentals of good will.

If the workman can be influenced to actions which react to his own loss and disadvantage, then it stands to reason that by square dealing and correct teaching, he can be molded constructively. But this education must be conducted on a practical basis and in a manner which the employee will be receptive to, will understand and will believe.

By fostering co-operation rather than competition between management and wage earner, a real worth while, work-together spirit can be established with substantial gains to both the employer and the employee.

All this can be done and is being done where there is proper application and the results are most gratifying.

**PULLEYS HANGERS**

# The WOOD Line

**SONS CO.**

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**FLANGE OR PLATE COUPLINGS**



Designed to withstand severe line-shaft service. Flanged to protect the workman from being caught on the bolt heads or nuts. Machined all over to template, making them interchangeable and therefore easily duplicated.

Interchangeability is a feature that has made

## THE WOOD LINE

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**THE MERROW MACHINE COMPANY**

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## Book Salesman Wanted

We want to get in touch with a salesman, woman preferred, who can sell "The Better Way," "Hearts of Gold," "Will Allen Sinner" and other books of Becky Ann (Mrs. Ethel Thomas) in the cotton mill villages.

The stories of Becky Ann deal with cotton mill life and are very popular in the mill villages. They sell for \$1.00 each.

**CLARK PUBLISHING COMPANY**

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## Looms and Williams Shuttles Function as ONE

Williams Shuttles are made to harmonize—to become a real part of the loom. Coordination is close to perfect. They are vital factors in smooth-running loom performance. Precise workmanship goes into every one of these shuttles. Their quality is uniform—weaknesses seldom crop up.

The unmistakable calibre of every part—the air-dried wood block, the practically unbreakable springs—such things as these make durability estimates futile. When we are called upon to design a shuttle, one of the paramount considerations is a "margin of safety"—a worthwhile feature.

Quick delivery is a synonym of Williams service. Sizes for all makes of automatic looms are carried in stock. We shall gladly send samples and co-operate in any way.

## The J. H. Williams Co.

"The Shuttle People"

MILBURY,

MASS.

Geo. F. Bahan, Charlotte, N. C.,  
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## Puro Sanitary Drinking Fountains



Southern Representative

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Masonic Building  
Greenville, S. C.

Puro Sanitary Drinking Fountain Co.  
HAYDENVILLE, MASS.

are in daily use in hundreds of textile mills.

### WHY?

Because they are the most satisfactory fountain on the market.

Connect a PURO to your supply, then proceed to forget about it. Years later PURO will be just as satisfactory as it was the day you installed it.

Send for Catalog

## Operation of Fly Frames

(Continued from Page 13)

lessly into conveying boxes; using dirty boxes to convey the slubbings, intermediates, and rovings to the next process; full bobbins falling on the floor and rolling under machinery; dirty creels; placing conveying boxes on top of full boxes of rovings without protecting the clean rovings; back tenters laying empty bobbins on bottom boards too soon for the next doffing; tenters oiling the collars carelessly, thus allowing oil to drop on the empty or full bobbins.

To minimize the amount of dirty, oil stained, and other faulty roving, a record is made by the spinning overlooker each day in some mills, and after inspection by the manager it is passed on to the carder or frame overlooker for attention. The record states: The hank roving, roving frame number or system, singles, doubles, lumps, black oil, soiled, and thick piecings. For the same purpose, other precautions are: Using special oil cans for oiling the rollers; sorting out and discarding all cracked bobbins at intervals, and thoroughly cleaning all oily bobbins both inside and outside; cleaning the conveying boxes at intervals and dusting the inner sides with French chalk; arranging full roving bobbins straight in the conveying boxes, but the inner sides of which not to be touched by the bottom ends of the bobbins; dipping the fingers and thumb in French chalk before piecing an end either at the back or the front.

Another precautionary measure is to have an operative walking along the back of each mule, or along each side of the ring frames, and remove all roving bobbins from the creel seen to contain any faulty roving, these bobbins being returned to the roving tenters concerned for the defective material to be unwound.

If empty bobbins are placed on the bottom boards and remain there overnight, no oil should be passed through the board holes extending to the bearings of the bobbin and spindle shafts until doffing has taken place, otherwise many empty bobbins will have oil on their surfaces. This should be specially guarded against on Monday mornings.

### Ends Breaking Down.

Ends breaking down at the front all over the frame, or at sections thereof, are traceable to the following causes: Couplings of spindle and bobbin shafts worked loose; drawing rollers and traverse guide badly set; driving wheels at the end of bobbin and spindle horizontal shafts worked loose, or teeth broken out; insufficient twist; cone belt slipping or almost broken; cone drums loose; sections of bottom rollers loose at the joints; twist and draft change wheels slipping, or the peg, on the shaft or stud, respectively, broken off. Twist and draft change wheels wrong in size or one or more teeth broken out; top cone wheel slipping; roving wrapped too often, or not often enough, round presser arm; drawing roller wheels set too deeply in gear, dirt accumulated in the roots, or one or more

teeth broken out; cut material in the creel; speed of frame too high; too much draft; middle top cone wheel and large front roller wheel working loose. Small front roller wheel working loose; one of the small chains broken which reverse the cradle at the bottom or top change; bottom rollers require scouring; a considerable difference in the cotton as to length of staple, evenness, feel, etc.

Odd ends breaking here and there are due to the following causes: Rough hole in traverse guide, or hole blocked with waste; stretched or cut material in the creel; roving passing over a rough place on flyer; bobbin jumping owing to its small bevel wheel or bobbin shaft bevel being badly worn, or not properly geared; bad piecing when creeling; a lap on middle or back bottom roller; top roller in bad condition; unbalanced bobbin; entangled coils of drawing frame sliver reaching the slubbing frame traverse guide; creel bobbin skewers blunt at bottom; a dent or rough place on one of the bottom rollers; an end from the intermediate or roving creel broken or run out.

### Stretched Roving.

The following are the causes of this very undesirable fault: Surface speed of bobbin over flyer eye not equal to surface speed of front roller throughout building of set, allowing, of course, for the twist and elongation; coils too close on the bobbin, overlapping one another, and becoming worse as the bobbins are built up; waste in hollow leg and flyer eye due to not being cleaned properly at doffing time; incorrect size of ratchet wheel; tenters interfering with the building motion; front top roller retarded in speed.

### Slack Ends.

When the ends are too slack between the flyer tops and the front rollers the causes are as follows: Ratchet wheel too small; coils too widely spaced; cone belt slipping owing to being too dry, too slack or overloaded; bobbin rail racks binding in the slides; spindle collars short of oil or clogged with waste and dirt, and the collars not correctly adjusted; tenter neglecting to piece up a broken end for some time, or not replacing an empty bobbin in the creel; roving wrapped too often round the presser arm; ratchet wheel catches not set to only permit the ratchet wheel to move half a tooth for each change, thus causing the ends to be too slack on one lift and too tight on the next lift.—Textile Recorder.

## U. S. Steel Corp. Purchases Cyclone Fence Co.

The consummation of negotiations which have been under way for some time, have now been concluded, whereby the properties of the Cyclone Fence Company have been purchased by the United States Steel Corporation.

The transfer of the Cyclone properties include their factories at Waukegan, Illinois and Cleveland, Ohio, also plants at Fort Worth, Texas, and Newark, N. J.

Through the acquiring of the Cyclone Fence Company by the United



States Steel Corporation, the corporation is entering into a phase of the fence manufacture not heretofore practiced by them, and in which the Cyclone Fence Company has led the field in its line of manufacture.

It is understood that no change in policy is contemplated, the business to continue under the name of the Cyclone Fence Company, carrying on, with the exception of its principal officers, under its present organization as a subsidiary of the corporation.

During 1903 the Cyclone Fence Company commenced operations in Waukegan, Ill., with a capitalization of \$25,000. They occupied a small building at the foot of Madison street, which was added to as the business warranted from time to time, until they finally outgrew these quarters (which are now occupied by the Franklyn R. Muller Company) and chose their present location of eight and one-half acres in North Chicago, Ill., erecting their present plant. Their capitalization was increased in 1906 from \$25,000 to \$100,000; in 1914 from \$100,000 to \$750,000; and in 1915 from \$750,000 to \$1,000,000, and later in the same year, it was increased to \$1,500,000.

During the year 1915 the Cleveland Cyclone Fence Company, of Cleveland, Ohio, was purchased and in 1919 the Texas Anchor Fence Company, of Fort Worth, Texas, was added to its holdings. In 1922 the company purchased a site in Newark, N. J., and erected a very modern and substantial manufacturing building.

J. P. Arthur has been its president and general manager since its inception. Their first line of manufacture was ornamental wire fence, ornamental and farm gates, and a line of field fence. The latter was discontinued in 1906 and their efforts were concentrated on the ornamental fence and gate line. This change of policy marked the beginning of a business in lawn fence and gates which today has reached immense proportions.

In 1914 chain link property protection fence was added to its line and it has since become one of the leading fences of the United States.

Through the leadership of J. P. Arthur, president and general manager, and his associates, the company has been one of steady growth and has, through its contact with jobbers and dealers throughout the United States, established a service that will long survive it. They have not been unmindful in their dealings with jobbers, dealers and consumers, and any others, that service and quality were paramount issues. They have acquired good will on the part of their trade, because they deserved it, as their selling plans and policies were built on a definite knowledge of what was right, fair and just and they have adhered to those policies. These were fac-

tors in the establishment of a very high credit rating which the company enjoys, and are responsible, no doubt, for their phenomenal successful growth.

The last couple of years have marked a still further future development through the perfection of a catch-all basket, and machinery for its manufacture; also, the inauguration of a chain link wire fabric, galvanized or zinc coated, after it is woven. The latter has been the means of revolutionizing and blazing a new trail for chain link fence manufacturers.

Through their consistent methods of national advertising, the company is well known throughout the United States and foreign countries, and it is fortunate from a longevity standpoint, that the corporation is acquiring such a well established and successful business.

The price consideration is not given.

### Knitters Studying Measurement Variances.

For the past two months Charles Hamlin, Research Fellow representing the Associated Knit Underwear Manufacturers of America in the U. S. Bureau of Standards at Washington, has been visiting knitting mills to determine tolerances and variations in standard measurements which should be allowed to manufacturers in enabling them to comply with the standards to be adopted by the industry, according to an announcement by Roy A. Cheney, secretary.

During his study Mr. Hamlin has found that if one man measures fifty garments and then remeasures them, the second operation will give a different set of results from the first. Similarly, one hundred men each measuring the same garment will get different results, but by repeated tests it is declared to be possible to establish a limit of error or variance.

Mr. Hamlin is also studying the actual variations from manufacturing standards as set up by individual manufacturers in their own mills. He also plans to determine how much variation there is in a general run of production from the actual measurements aimed at and set up by individual manufacturers. It has been found after investigation of production and measurement standards in a great number of mills that these variations can all be kept within well defined limits.

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## Press Comment on Child Labor Amendment

### A Blank Check to Congress.

To adopt this Child Labor Amendment would be simply to give Congress a blank check, with power to write on it anything it pleases. The history of Congress affords absolutely no ground for belief that it would write on that check nothing but wisdom. There is in all the States no Legislature more undependable, more uncertain, more given to foolish and pernicious actions than is Congress. There is every reason why the States should not turn over their own affairs to Congress.

It is a wild proposal, thoroughly in line with the purposes of the centralizationists who would make the Washington Government omnipotent. If the States are failures and cannot attend to their own affairs it would be more consistent to offer an amendment abolishing the States entirely instead of abolishing them piecemeal, as this and other proposals would do.—Louisville (Ky.) Courier-Journal.

### Centralization Sapping Strength of Government.

The concentration of power at Washington is sapping the strength of the government in all of its main and sub-divisions. The very life of the republic depends upon the retention by the States of the powers stated originally in the Constitution and the restriction of the Federal Government to the particular powers then granted it by the States. More important than any other thing is the recovery by the States of the rights that have been taken from them, greatest among them the principle of local self-government. Tinkering with the organic law has already reached the limit of safety to republican institutions.—New Haven (Conn.) Courier-Journal.

### Child Labor Amendment Not Confined to Paid Labor.

"The amendment does not confine the power of Congress to control of 'paid' labor or labor in factories, mills and mines; it confers power to control whether boys and girls may labor without pay on the farms and in the homes of their parents. Neither Republican nor Democratic national platforms advise 'ratification' of this amendment. The Republican national platform advises only its 'consideration.' It is therefore not a party measure."—Fitchburg (Mass.) Sentinel.

### Local Affairs Managed by Washington Perfects.

"If the day should arrive (which, God forbid)," said John Fiske, "when the people of the different

parts of the country shall allow the local affairs to be administered by prefects sent from Washington, and when the self-government of the States shall have been so far lost as that of the departments of France, or even so far as that of the counties of England—on that day the progressive political career of the American people will have come to an end, and the hopes that have been built upon it for the future happiness and prosperity of mankind will be wrecked forever."

### The Immunity of Our Homes.

The English Common Law jealously protected a man's immunity in his home against the prying eyes of the governments—and to such an extent—that it led Chatham in his speech on general warrants to say:

The poorest man may in his cottage bid defiance to all the forces of the crown. It may be frail, its roof may shake, the wind may blow through it, the storm may enter, the rain may enter, but the King of England may not enter; all his force dare not cross the threshold of the ruined tenement.

### Basis of Objection to Child Labor Amendment.

The proper objections to this proposed amendment have no more to do with organized manufacturers than with organized ministers, or a social club. The opposition is two fold: First, that it isn't right to enact laws under the guise of constitutional amendments, and second, that the proposal to give Congress custody of young people until they are eighteen is wholly vicious. That should be emphasized rather than the fact that organized industry is against it.—Hartford (Conn.) Times.

### Would Increase Difficulty of Keeping Children on Farm.

The farmer just now is finding it harder to keep the boys and girls on the farm because of the feverish urge to pleasure-seeking in the larger communities.

The proposed Federal amendment against child labor would merely make such matters worse if passed in its present form. It gives to Congress the right to regulate every citizen of every State, male and female, under the age of eighteen, so far as occupation goes. As shown by the figures recently published in these columns, it would hit the farmer harder than any one else.—Rutland (Vt.) Herald.

### The Twentieth Amendment.

The proposed Twentieth Amendment to the Constitution of the United States, the Child Labor Amendment, gives Congress authority to regulate the labor of all persons under eighteen years of age. We believe that this amendment should be defeated, that the people through the Legislatures of the several States should refuse to ratify it. One reason is sufficient, though there are other reasons.

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There is no sense in giving Congress authority to deal with any matter that can be handled best by the States. Our Federal Government's authority has been growing constantly, by actual amendment of the Constitution and by judicial interpretation of it, and it is time to pause and see where this centralization of authority is likely to lead us. Now, when we are asked to give a distant Congress power over the persons of our children, is a good time to stop. We do not question the evils of unrestricted child labor, but it is evident that they may be avoided best by State legislation, enacted by those who best understand local conditions. — National Stockman and Farmer.

#### Nationalization of Children.

A grant of Federal power is asked for that no modern Government except Russia's has ever thought of employing. "Nationalization of children?" More, nationalization of all persons up to the age of eighteen. It is a proposal that at least one-fourth and one of the Legislatures of the American States, the number necessary to prevent ratification, may be counted upon to reject flatly.—Providence (R. I.) Journal.

#### No Need for Child Labor Amendment.

The world does not oppose legislation restricting the employment of children. Each commonwealth enjoys ample and unquestioned authority to do this in proportion to the conditions existing within the frontiers of such commonwealth. It is folly to assert that the conditions which justify such legislation as the Federal Legislature attempted on two occasions, are national. They are not. The agrarian sections of the republic are in no more need of child labor legislation than they are of maritime insurance!—Tulsa (Okla.) World.

#### Would Confer Extreme Power to Regulate.

The proposed amendment would confer on Congress the exclusive right to regulate not merely the working life of children, but every person in the United States under eighteen years of age. It would include the power to prohibit all such persons from earning a livelihood at any and all forms of employment, or even to engage in any task or occupation in aid or support, or at the request or direction of their parents, not less at home than on their farm or in any factory. The amendment which therefore convey power to an extent not now possessed by any State of the Union. It would give a right of intervention between parent and child and Federal control over farm life. Any subsequent legislation could be administered only through an elaborate and expensive bureaucratic system.—The Register, New Haven, Conn.

#### Unwarranted Usurpation of States' Rights.

We are not in favor of the proposed Child Labor Amendment to the Federal Constitution for the reason that it would result in the further unwarranted usurpation of States' rights, the unnecessary curtailment of parental authority and responsibility by a Federal bureaucracy, and the excessive centralization of additional power in the Federal Government at the expense of local self-government.—Resolution adopted by Central Catholic Society.

#### Nebraska Farm Bureau Federation Opposes Child Labor Amendment.

Resolved, that the executive board of the Nebraska Farm Bureau Federation is opposed to the adoption of this amendment as interfering with the duty and authority of the parents in their relation to children, especially as it affects farmers and their families. That it interferes with the formation of habits of industry and frugality by our youth and that it infringes upon the obligations of the various States in the regulation of internal affairs and is contrary to the fundamental principles of our government.—Resolutions adopted by Nebraska Farm Bureau Federation, Lincoln, Neb., Sept. 4, 1924.

#### Grant of Power Not Limited to Childhood.

"The new grant of power is not limited to childhood and to child labor, but it includes the activities of all persons under 18 years of age. It goes without saying that the vast majority of human beings are, and ought to be, helpfully and hopefully engaged in some form of gainful occupation for at least a part of the time before that age is reached. Indeed, it is difficult to see how the youth of the land can be properly educated without opportunity to engage in some systematic occupation after the age of 16.

"Proponents of this measure insist that the sweeping power which is to be conferred upon the Congress will never be used, that nothing more will be done than has already been proposed, and that the recalcitrant States will be brought quickly into line by the power of the Federal Government.

"Experience proves, however, that legislative bodies do not withhold their hand when the people grant them power; rather do they exercise it to the extreme limit.—Dr. Nicholas Murray Butler, of Columbia University.

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## Cotton Goods

New York.—A further decline in the cotton markets this week again upset values in the goods markets. Prices on gray goods declined by a quarter of a cent a yard. Sheetings and some of the convertibles were also lower. Trading reached only a moderate volume.

The recent demand for heavy cotton goods for the automobile and other manufacturing trades has left them better sold ahead and the lighter goods that are sold through the regular dry goods channels. The new gingham prices were generally on a par with fall values. Sales of percales were moderately large for the week. Bleached goods were easier and sales were small. There was a moderate demand for denims and other heavy colored goods and some mills have about cleaned out their stocks.

The markets steadied somewhat at the close of the week. Buyers of imported broadcloths and sateens placed business more freely for delivery in January and February. prices on print cloths, sheetings and convertibles were somewhat firmer. A moderate amount of trading was reported on wide prints on Friday and Saturday. Print cloth prices held steady at 8½ cents for 38½-inch 64x60s with some sellers refusing business on that basis. Sales of 64x48s were reported at 7½ cents, with some second hands an eighth cent lower.

Sheetings were quiet but selling agencies declined business at the low levels of 10¼ cents for 37-inch 4-yards, and 8½ cents for 5-yards. Occasional sales of choice goods were made in a small way at full prices where prompt deliveries are wanted.

Sateens are somewhat easier in some quarters but prices on the whole are irregular because of a choice of makes. Fair sized sales of 72x80s pajama checks were made at 10½ cents. Some interest is reported in osnaburgs and specialties for the dress trade in coarse yarns.

The silk and cotton mixtures mills have shown a tendency to advance their prices because of the war in China. A realization of conditions is expected within a few days. The broadcloth market reported a few sales of the low counts.

There were several inquiries for tire fabrics received in the market and a part of the business was placed. The weaker tone in raw cotton encouraged a few tire mill officials to expect weakness in the fabric quotations but this did not result. Though the mills are generally working full and part over-

time in the South they could take on substantially more business with deliveries to begin in six to eight weeks.

The enameling duck situation is reported to be in nearly as good condition as is the army duck section. The mills are well sold up ahead and though they can take on new business they are very firm in their price ideas regarding the 38 and 46½-inch goods which have sold up best. No hose and belting duck orders have been placed during the week.

Wherever prices are at all settled it is stated that cotton goods trading is going along quite steadily. There is a need for many goods, both gray and finished, and while buyers hesitate partly on account of prices they also question whether it is prudent for them to make long engagement when mills are getting running again so generally. Buyers have found many opportunities to trade down, owing to the unwillingness of some mills to make special trades or sell close to keep going. The gingham markets are developing slowly on staples and semi-staples, due to delay on the part of Southern mills in making spring prices and to congestion of low-end lines in old designs in some stocks.

John V. Farwell Company, Chicago, say in their weekly review of trade: The outstanding feature of the wholesale dry goods business situation is the broadening of market buying. Retailers have been in the market in very much larger numbers than during the corresponding half of the month of last year. Indian summer weather having made it possible for more merchants to leave their stores at this period. Anticipation of the heavy fall or winter demand which always comes at the first snow storm is encouraging buyers to complete their stocks. Gingham prices that have been named by leading mills have had a tendency of stabilizing the market on all woven wash fabrics. Dress goods commitments consequently are moving further toward the spring season. Chiffon velvets, velveteens, and corduroy are very active. Collections show good improvement.

Prices reported in primary markets are as follows: Print cloths, 28-inch 64x64s, 7 cents; 64x60s, 6½ cents; 38½-inch 64x64s, 9 cents; brown sheetings, Southern standards, 15½ cents; denims, 19 cents and 20 cents; tickings, 25 cents and 26 cents; staple ginghams, 27-inch, 12½ cents; dress ginghams, 18½ cents and 21 cents.

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# The Yarn Market

Philadelphia, Pa.—Trading was not as active in the yarn market after the last Government report was issued, although the markets steadied before the week ended and spinners' prices were very firm. During the recently decline in cotton prices, yarn quotations have dropped as a natural consequence and trading was almost entirely confined to small hand-to-mouth business. Many prices in the market were a full cent under those asked by spinners. Buyers continued very conservative in their attitude and were not inclined to consider future requirements as long as conditions are so unsettled.

There was a better demand for insulating yarns than during the previous week, yarns being wanted for prompt delivery and as far as 90 days ahead. The demand in other quarters of the market was limited to small lots for prompt shipment.

In spite of the decline in gray yarns, mercerized yarns did not go lower during the week and appear to be in a somewhat stronger position. These yarns have improved considerably during the past several weeks and some of the mercerizers are well sold ahead. Most of them have been well covered on combed yarns for some time and have not had to buy additional supplies in any large quantities. Prices of combed yarns showed no appreciable change during the week, although several sales of single combed were reported at prices slightly lower than current quotations.

While the yarn market is still leaning toward the buyers' side, general list of carded hosiery and weaving yarns is now at a point about half way between the high prices of the early part of this month and the low level reached in September. There is still a large potential demand in sight and most factors look for improving conditions when the cotton markets are more stabilized.

Prices in this market were quoted as follows:

Two-Ply Chain Warps.			
2-ply 8s	40 a41	2-ply 26s	47½a48
10s	41½a42	2-ply 30s	49½a50
2-ply 16s	43½a44	2-ply 40s	55½a56
2-ply 20s	44 a45	2-ply 50s	64 a
2-ply 24s	47 a48		
Two-Ply Skeins.			
8s	39 a	40s	53½a54
10s to 12s	40 a41	40s ex.	53 a59
14s	42 a	50s	64 a
14s	43 a	60s	72 a73
20s	44 a45		
24s	46½a		
26s	47½a48		
30s	49 a50		
36s	52 a		
Part Waste Insulated Yarn.			
6s, 1-ply 35 a	12s, 2-ply	38 a	
8s, 2, 3 and	20s, 2-ply	43½a	
4-ply 35½a	26s, 2-ply	47 a	
10s, 1-ply and	30s, 2-ply	49 a	
2-ply 37 a			

Duck Yarns.			
3, 4 and 5-ply	3, 4 and 5-ply		
8s	39 a	16s	44 a
10s	40 a	20s	44½a45
12s	41 a42		
Single Chain Warps.			
10s	41½a	24s	47 a
12s	42 a	26s	48 a
14s	42½a	30s	49½a50
16s	43 a	40s	56 a
18s	44 a		
Single Skeins.			
6s to 8s	40 a	20s	44 a
10s	41 a	24s	45 a
12s	42 a	26s	47 a
14s	42 a	30s	49 a50
16s	43 a		
Frame Cones.			
8s	39 a	22s	43 a
10s	39½a	24s	44 a
12s	40 a	26s	45 a
14s	40½a	28s	46 a
16s	41 a	30s	47½a48
18s	41½a	30s tying in	46 a
20s	42½a	40s	52 a53
Combed Peeler Skeins, Etc.			
2-ply 16s	55 a56	2-ply 50s	70 a
2-ply 20s	57 a58	2-ply 60s	75 a
2-ply 30s	60 a62	2-ply 70s	85 a
2-ply 36s	60. a65	2-ply 80s	95 a
2-ply 40s	65 a67		
Combed Peeler Cones.			
10s	50 a	30s	60 a
12s	51 a	32s	62 a
14s	52 a	34s	64 a
16s	52½a	36s	65 a
18s	53 a	38s	68 a
20s	53½a	40s	70 a
22s	54 a	50s	75 a
24s	54½a	60s	80 a
26s	55 a	70s	90 a
28s	57 a	80s	96 a
Carded Peeler Thread Twist Skeins.			
20s 2-ply	52 a	36s, 2-ply	62 a
22s, 2-ply	52 a	40s, 2-ply	64 a
24s, 2-ply	55 a	45s, 2-ply	69 a
30s, 2-ply	58 a	50s, 2-ply	74 a
Carded Cones.			
10s	47 a	22s	53 a
12s	48 a	26s	55 a
14s	49 a	28s	57 a
20s	52 a	30s	59 a

## Brazilian Cotton.

Brazilian cotton, which has a staple of 1½ in. to 1 3-16 in., and is equal to, or better than, the grade of American from which 44s twist is generally spun, is much favored in Lancashire, and the half million or so of bales that are annually imported into this country are readily sold. The hopes of the trade of an increased supply have been raised, states the Times, by the announcement that the Government will aid in the development of cotton growing in the most promising areas, which are found in the States of Sao Paulo, Parahyba, and Rio Grande do Norte. — Manchester (Eng.) Guardian.

## Cotton Situation in Lancashire.

Washington.—The Textile Division of the Department of Commerce has just issued a report on the cotton situation in Lancashire.

Even though the British cotton textile industry has been working only 26¼ hours per week for many months, it has taken a larger percentage of the total of American cotton delivered to spinners in all countries during the period from August 1, 1923, to July 25, 1924, than was true in the previous year.

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Wanted—To correspond with mill in need of superintendent. Would prefer mill that is run down and not getting results. 40 years of age, married, strictly sober. Can give good reference. Now employed. Superintendent on present job six years. 22 years experience as superintendent and overseer carding and spinning. Address "H. B. T." care Southern Textile Bulletin.

Man with 23 years in cotton yarn mill, 20 years official, ability, trained in every branch, would like to hear of vacancy with chance to prove ability. Opportunity for new mill to secure A-1 man, highly recommended. Address A. C., care Southern Textile Bulletin.

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**WANT POSITION** as overseer spinning. Overseer for 20 years on all counts and colors, both carded and combed, from various stocks. Can get results. Would consider \$33 weekly, with free rent. No. 4327.

**WANT POSITION** as superintendent. My experience covers mills in both North and South on a wide variety of goods and yarns. Excellent references to show past record of unusual achievement. No. 4328.

**WANT POSITION** as superintendent of cotton yarn or good mill. Man of unusual ability and can give references to show excellent past record. No. 4329.

**WANT POSITION** as overseer spinning or night superintendent. Qualified by experience and training to handle room on efficient basis. A-1 references. No. 4330.

**WANT POSITION** as overseer weaving. My experience covers wide variety of fancy goods, including silk mixture. First-class references as to character and ability. No. 4331.

**WANT POSITION** as overseer carding or spinning, or would take good second hand's place. North Carolina preferred. Long experience. I. C. S. graduate, age 30, married, sober. References. No. 4332.

**WANT POSITION** as superintendent or overseer weaving. Practical, experienced man on many different fabrics. Long and satisfactory record as overseer and superintendent. Best of references. No. 4333.

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**WANT POSITION** as superintendent, prefer yarn mill. Now employed but can change on short notice. Best of references. No. 4336.

**WANT POSITION** as superintendent, or overseer carding, spinning and twisting. Experienced man with excellent past record. Good references. No. 4337.

**WANT POSITION** as overseer carding or spinning, or both. Now employed, but want larger place. First-class references to show character and ability. No. 4338.

**WANT POSITION** as overseer weaving or assistant superintendent. Have had 19 years as overseer on all grades of yarn and cloth. Excellent references. No. 4340.

**WANT POSITION** as overseer carding or spinning or superintendent of yarn mill. Now employed but can change on short notice. Can get quality production at low cost. Best of references. No. 4341.

**WANT POSITION** as overseer carding, 20 years as overseer on all classes of work. Now employed. Age 40, married, have family. Good references. No. 4342.

**WANT POSITION** as overseer weaving. Experienced on wide variety of fabrics, both plain and fancy. Have excellent record and can give first-class references as to character and ability. No. 4343.

**WANT POSITION** as superintendent or overseer carding or spinning room. Familiar with fine and coarse numbers and know how to get satisfactory results. Good references. No. 4344.

## Northern Cotton Hosiery Industry is Headed South

Philadelphia.—The cotton hosiery industry of the North is heading South, and expansion in most lines of hosiery and other than low-end cotton will be on a larger relative scale in that section than in many of the Northern knitting centers. This is the deduction drawn from the temper of manufacturers driven to the line of seeming least resistance in efforts to adapt cost to prices.

One Philadelphia manufacturer this year established a branch in North Carolina, another looked over several proposed sites last week in contemplation of plant removal, and still another has a number of Southern locations under consideration.

"We shall remove our cotton hosiery department to some Southern town," said Edward Powell, president of the Powell Knitting Company, Philadelphia, in an interview.

Rumor of the company's intended removal has been current for some time. Not until last week would the company break its silence on the subject.

"We shall not lower the standard of our bread and butter number of half hose," said Mr. Powell, "and are left with but two alternatives—discontinue the line or seek a more favorable location. We have decided upon the latter."

Mr. Powell and other executives of the company, which has been manufacturing hosiery in Philadelphia continuously for 45 years, have inspected a number of sites in the South, and have had offers from civic bodies to put local capital into the enterprise, if that be desired.

Several cities in Georgia and Texas have held out alluring proposals through boards of trade and chambers of commerce, and it seems it will not be long before a selection is made.

The Wallace Wilson Hosiery Company, Philadelphia, which a few months ago established a branch in Salisbury, beginning with untrained help, has made considerable progress in the making of skilled operatives out of raw material, it is understood. The mill is operating a good part of the equipment and the results have been satisfactory, it is stated.

Another prospective addition to the hosiery industry in the South is the proposed removal of the mill of the Unrivalled Hosiery Mill from Williamstown, Pa. John B. Leshner, the treasurer and general manager, accompanied by S. D. Bausher, president of the company, spent the greater part of last week in the cotton belt in a survey of three or four sites which have been under consideration for several weeks.

One manufacturer looking Southward in the formulation of plans for removal from Philadelphia doubts the expediency of going to North Carolina, where, he believes, the industry has been overexpanded. His idea is to locate in some community where there is an abundance of untrained help.

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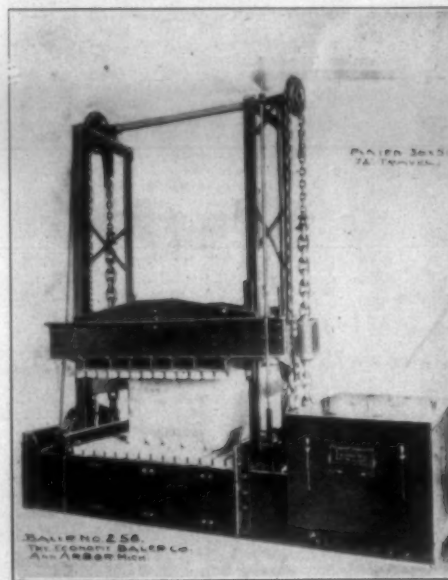
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Arabol Mfg. Co.

Arnold, Hoffman & Co., Inc.

Klipstein, A., & Co.

L. Sonneborn Sons, Inc.

United Chemical Products Co.

### SODA ASH—

J. B. Ford Co.

Mathieson Alkali Works, Inc.

### SOFTENERS (OIL)—

Bosson & Lane.

E. F. Houghton & Co.

### SOLOZONE—

Roesler & Hasslacher Chemical Co.

### SPINDLES—

Draper Corp.

Easton & Burnham Machine Co.

Fales & Jenks Machine Co.

Woonsocket Machine & Press Co., Inc.

Saco-Lowell Shops.

Southern Spindle & Flyer Co.

Whitin Machine Works.

### SPINNING FRAMES—

Spindle Repairers—

Poultier & Lemoine.

Fales & Jenks Machine Co.

### SPINNING FRAME SADDLE—

Dixon Lubricating Saddle Co.

### SPINNING RINGS—

Draper Corp.

Fales & Jenks Machine Co.

Pawtucket Spinning Ring Co.

Whitin Machine Works.

Whitinsville Spinning Ring Co.

### SPOOLS—

David Brown Co.

U. S. Bobbin & Shuttle Co.

Courtney, The Dana S., Co.

Jordan Mfg. Co.

Lestershire Spool & Mfg. Co.

Steel Heddle Mfg. Co.

Walter L. Parker Co.

—See Bobbin's, Spools, Shuttles.

### SPROCKETS, SILENT CHAIN—

Link-Belt Co.

### SPOOLERS—

Draper Corp.

Easton & Burnham Machine Co.

Saco-Lowell Shops.

Whitin Machine Works.

### SPINNING TAPES—

American Textile Banding Co.

Barber Mfg. Co.

### STARCH—

Arnold, Hoffman & Co., Inc.

Corn Products Refining Co.

Keever Starch Co.

Penick & Ford, Ltd.

Staley, Hall & Co.

### STOCKS AND BONDS—

American Trust Co.

### STRIPPER CARDS—

L. S. Watson Mfg. Co.

### SWITCH BOXES—

Chicago Fuel Mfg. Co.

### TEXTILE MACHINERY SPECIALTIES—

Cocker Machine and Foundry Co.

Hyatt Roller Bearing Co.

### TEXTILE SODA—

J. B. Ford Co.

### TEMPLES—

Draper Corp.

Hopedale Mfg. Co.

### TESTING APPARATUS (Fabrics)—

B. F. Perkins & Son, Inc.

Henry L. Scott & Co.

### TRANSFER STAMPS—

Kaunagraph Co.

### TRANSMISSION BELTS—

Charlotte Leather Belting Co.

Chicago Belting Co.

Grant Leather Co.

Edward R. Ladew Co.

E. F. Houghton & Co.

Graton & Knight Mfg. Co.

### TRANSMISSION MACHINERY—

Allis-Chalmers Mfg. Co.

Tolhurst Machine Works.

William Sellers & Co., Inc.

Wood's, T. B., Sons Co.

### TOILETS—

Vogel, Jos. A., Co.

### TOOL CABINETS AND STANDS.

STEEL—

Lupton's, David, Sons Co.

### TRANSMISSION MACHINERY—

Hyatt Roller Bearing Co.

### TRANSMISSION SILENT CHAIN—

Link-Belt Co.

Morse Chain Co.

### TRUCKS (MILL)—

Diamond State Fibre Co.

Ronars Fibre Co.

### TIRES, PAPER—

Ronars Products Co.

### TUBES (STEAM)—

Allis-Chalmers Mfg. Co.

### TWISTING MACHINERY—

Draper Corp.

Fales & Jenks Machine Co.

Saco-Lowell Shops.

Whitin Machine Works.

### TWISTING TAPES—

Barber Mfg. Co.

### UNDERWEAR MACHINES—

Marrow Machine Co.

### VENTILATING APPARATUS—

American Moltening Co.

Parks-Cramer Co.

### VENTILATING FANS—

B. F. Perkins & Son, Inc.

### WARPERS—

Cocker Machine & Foundry Co.

Crompton & Knowles Loom Works.

Draper Corp.

Easton & Burnham Machine Co.

T. C. Entwistle Co.

### WARP DRESSING—

Arnold, Hoffman & Co., Inc.

Brason & Lane.

Drake Corp.

L. Sonneborn Sons, Inc.

Seydel-Thomas Co.

Vyadsworth, Howland & Co., Inc.

### WARP STOP MOTION—

Draper Corp.

Hopedale Mfg. Co.

R. I. Warp Stop Equipment Co.

### WARP TYING MACHINERY—

Barber-Colman Co.

### WASHERS (FIBRE)—

Rogers Fibre Co.

### WASTE BINS, STEEL—

Lupton's, David, Sons Co.

### WASTE RECLAIMING MACHINERY—

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Whitin Machine Works.

Woonsocket Machine & Press Co., Inc.

### WASTE PRESSES—

Economy Baler Co.

### WATER INTAKE SCREENS—

Link-Belt Co.

### WEIGHTING COMPOUNDS—

Arabol Mfg. Co.

Atlantic Dyestuff Co.

### Bosson & Lane.

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Seydel-Thomas Co.

### WATER WHEELS—

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Well Drilling—

Sydnor Pump & Well Co.

### WHIZZERS—

Tolhurst Machine Works.

### WINDERS—

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Saco-Lowell Shops.

Universal Winding Co.

### WINDOWS—

Lupton's, David, Sons, Inc.

Carrier Engineering Corp.

Parks-Cramer Co.

### WINDOW GUARDS—

Cyclone Fence Co.

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Lupton's, David, Sons Co.

### WIRE PARTITIONS—

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### YARNS—

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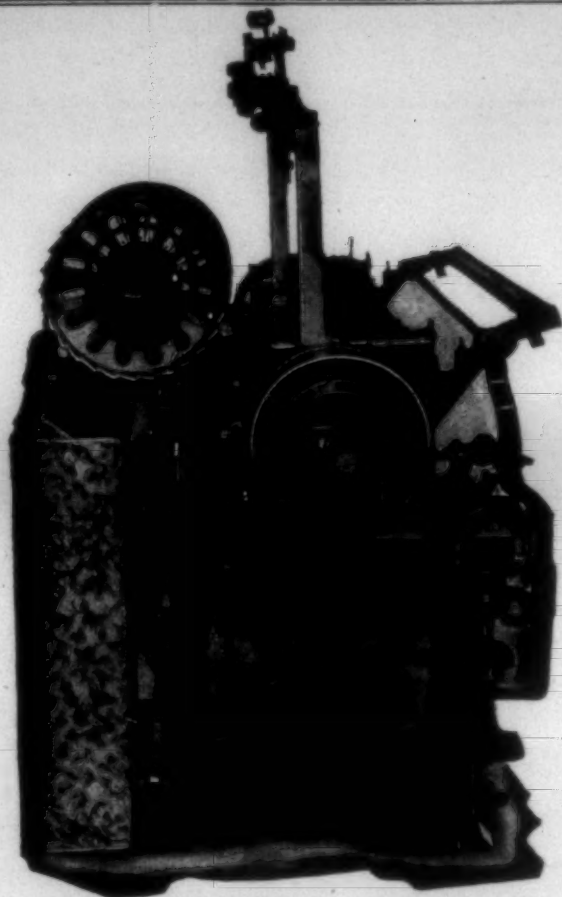
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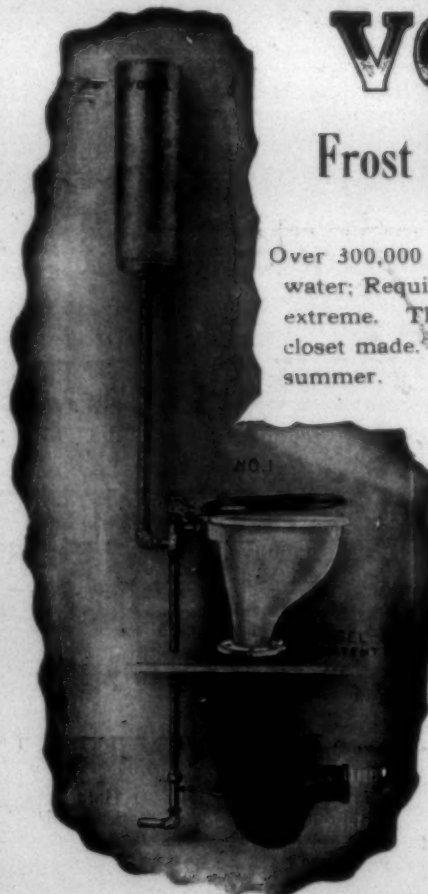
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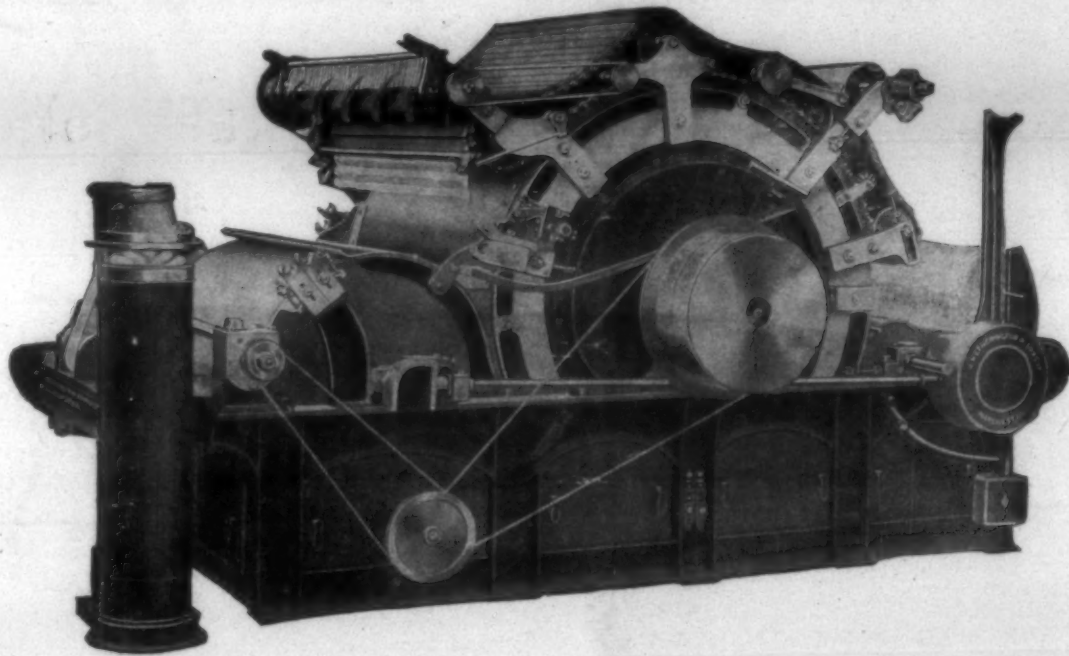
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